

CONQUEST OF THE AIR — In this Number

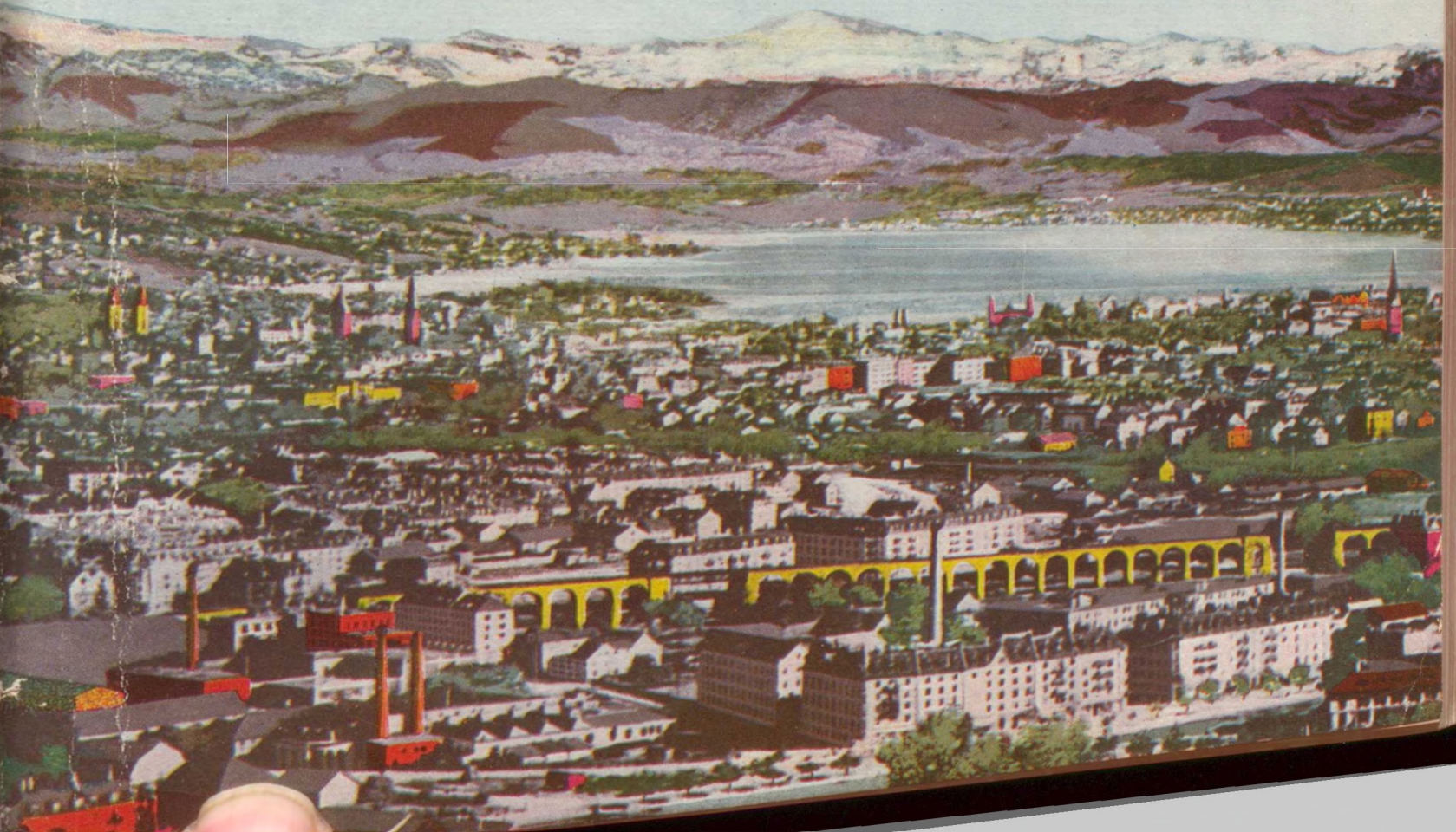
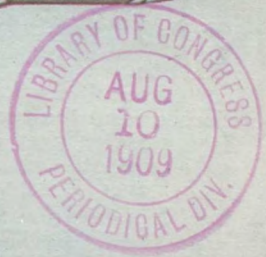
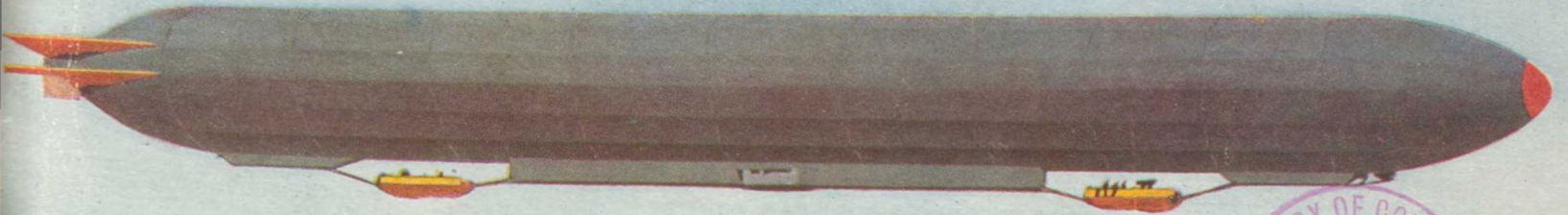
THE

PROGRESS MAGAZINE

AUGUST

1909

TEN CENTS





IF YOU WISH
**TO LIVE LONG;
ACHIEVE SUCCESS;
DOUBLE YOUR SALARY;
DOUBLE YOUR BUSINESS**

You will need to have abounding health, vim and vigor. No other one factor counts for so much. "Health and Happiness!" How often we hear the words spoken together—and rightly so, for they are practically synonyms. Prof. Sylvester J. Simon, who has treated more than 30,000 people at his Physical Culture establishment in Chicago (many of them being leading business men who have testified to the wonderful results of his teachings), has written a book entitled

PHYSICAL PERFECTION

This book constitutes a home course in physical culture. It is even more than that. It looks both to the prevention and to the alleviation of disease and all by the methods of Nature.

"Physical Perfection" exploits no pet theories. Every word in the book is sense—based upon what Professor Simons has proved in his practice.

"Physical Perfection" contains in condensed form the complete system which Professor Simon uses every day in his physical culture establishment in Chicago. The book makes everything very plain and simple. To give you an idea of the exhaustive manner with which the book covers the subject we give you the chapter headings.

I. Health. II. Physical Culture. III. Childhood. IV. Boyhood and Youth. V. Longevity. VI. How to Carry the Body. VII. Breathing and Pure Air Exercises. VIII. Sleep—Rest—Insomnia. IX. Bathing. X. Clothing. XI. Foods. XII. Liquids and Stimulants. XIII. Obesity. XIV. Leanness. XV. Stomach and Bowel Disorders. XVI. Coughs—Colds—Catarrh. XVII. Nervous Ailments. XVIII. Lessons in Physical Culture.

Chapter XVIII is a long illustrated chapter—ninety pages—that tells you what to do for what you need, and HOW TO DO IT. Every exercise is shown by specially drawn illustrations making every movement clear. This is a specially strong feature of the book.

More than that these Exercises are indexed and cross-indexed. Suppose you feel the need of more strength in the muscles of the back? The index directs you to the appropriate exercises. Suppose you need to reduce or to build up flesh? Turn to the index. Suppose you have nervous headache? or rheumatic stiffness? or insomnia? or constipation? or what not? The index is your infallible guide to the proper Natural Treatment to give relief.

"Physical Perfection," in artistic quality and mechanical make-up, is worthy of the subject. There are 208 pages and 48 illustrations. The paper is of the finest quality, deckle-edged. The binding is finest Silk Cloth, triple gold-stamped on back and side.

The regular price of "Physical Perfection" is \$3.00, but we have made arrangements for a special edition for PROGRESS readers at just one-half this price—

\$1.50 Postpaid

Remember this is the same book in every way which formerly sold at \$3.00. Send NOW, TO-DAY, before this special half-price edition is exhausted.

THE PROGRESS COMPANY, 515 Rand-McNally Bldg., Chicago, Ill.

THE PROGRESS MAGAZINE

CHRISTIAN D. LARSON, Editor

CONTENTS FOR AUGUST, 1909

The cover design is taken from a photograph showing Count Zeppelin's Airship sailing over the city of Zurich, Switzerland.

Editorial	- - - - -	Christian D. Larson	- -	I
Faith (Poetry)	- - - - -	Raymond Forest Fritz	- -	4
It Pays	- - - - -	- - - - -	- -	4
The Conquest of the Air	- - - - -	Jewett E. Ricker, Jr.	- -	5
Cement	- - - - -	William Matthews Handy	- -	19
Eileen (Story)	- - - - -	Len Field	- -	29
The Happiness Cure	- - - - -	Christian D. Larson	- -	35
Character	- - - - -	William Walker Atkinson	- -	38
A World-Wide Movement for the Elimination of Adverse Suggestions (Series 4)	- - - - -	- - - - -	- -	41
Resources and Industrial Conditions of West Virginia	- - - - -	Hon. William E. Glasscock	- -	49
Opportunities and Possibilities of Medford, Oregon	- - - - -	Lucille Rood Conrad	- -	51
Twisted and Turned (Chapters VI and VII)	- - - - -	S. J. Mitchell	- -	56
Where Flying Machines Are Made	- - - - -	Penelope Gleason Knapp	- -	65
The Prevention of Fear	- - - - -	- - - - -	- -	72
Progress in New York State Prisons	- - - - -	Harriet Bishop Waters	- -	73
Men and Women Who Are Making Good	- - - - -	- - - - -	- -	79
The Beginning of a Merchant	- - - - -	Everett Elmore	- -	89
The School of Genius (Passive Elements in the Building of the Brain)	- - - - -	Christian D. Larson	- -	94

Subscription Price, 10 cents a copy, \$1.00 a year in United States, Alaska, Cuba, Porto Rico, Mexico and the Hawaiian and Philippine Islands. Canada, \$1.50; Foreign, \$2.00.

Change of Address should be given two weeks in advance. Always give the former address as well as the new one.

A Renewal Blank in your copy indicates that your subscription has expired. If renewal blank is received after you have renewed pay no attention to it.

Entered as second-class matter May 24, 1909, at the Postoffice at Chicago, Ill., under the act of March 3, 1879. Copyright, 1909, by The Progress Company.

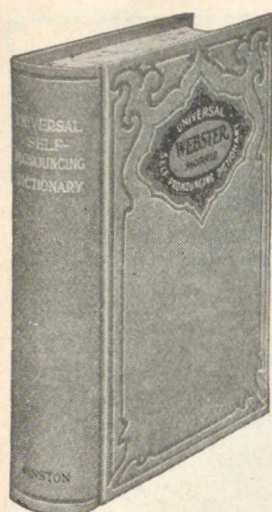
Published on the first of each month by

THE PROGRESS COMPANY

Christian D. Larson, President
H. E. Walrath, Secretary

Burton D. Knickerbocker, Vice-President
Edward E. Beals, Treasurer and Manager

515-519 Rand-McNally Building, Chicago, Ill.



Cloth Binding
Sewed on tape and in other ways strengthened to make it durable.

*Printed from
New
Type-Set
Plates*

**AMONG THE NOTE-
WORTHY IMPROVE-
MENTS ARE THE
FOLLOWING:**

It Contains All the Words in the English language in ordinary use, including the many new words that have recently come into use. The definitions are accurate and reliable and embrace all distinctions and shades of meaning.

Words Divided into Syllables. Each index word is divided into syllables in the manner employed by the best writers.

The Proper Use of Capital and Small Letters is clearly indicated. Proper nouns begin with capital letters, common nouns begin with small letters.

The Pronunciation of Each Word is shown by a clear and properly accented system of phonetic spelling.

The Synonyms and Antonyms are given with the words themselves following the definitions instead of the usual but less convenient method of placing them in a separate list in the appendix.

Each Word and Its Derivatives are separately indexed instead of the suffix words and prefix words being crowded in with the definitions, an expedient used to save space, but with a loss of clearness and utility.

Many Other Necessary Features Useful in Home, School and Office, including Rules for Pronunciation; Dictionary of Prefixes and Suffixes of Names of Men and Women; of Mythological and Classical Names; of Forms of Address; of Popular Titles of Cities and States; of Important Persons, Places, Monuments; of Foreign Words and Phrases, Colloquialisms, Quotations and Significant Words and Phrases frequently met with in Literature, and a Dictionary of Words adopted by the Simplified Spelling Board; Maps of the World and of the United States in Colors; Flags of All Nations in Colors.

1000 Pages

Cloth, Indexed Size 5½x8½ inches Postpaid, \$1.00

French Morocco, Flexible, Indexed " \$1.75

THE PROGRESS COMPANY,

515 RAND-MCNALLY BLDG., CHICAGO, ILL.

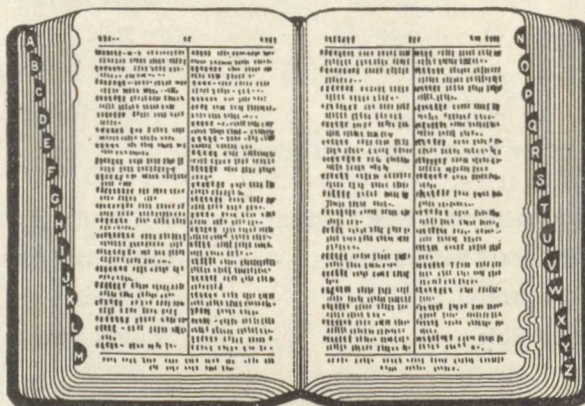
In writing to advertisers, please mention THE PROGRESS MAGAZINE.

THE NEW UNIVERSAL SELF-PRONOUNCING DICTIONARY

*Based upon the Solid Foundation laid by NOAH WEBSTER
and other Lexicographers, thoroughly modernized
by CHARLES MORRIS*

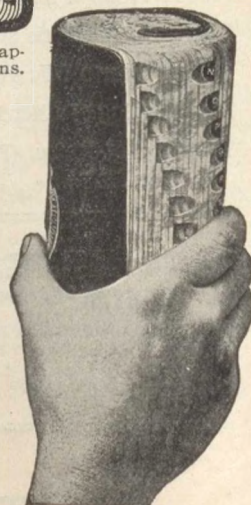
In the Office It tells you how to divide each word into syllables; how to pronounce it, whether it begins with a capital letter or a small letter; gives abbreviations; legal and commercial terms, and names of persons and places. It will be found indispensable to employer, stenographer or clerk.

In the Home and School Its simple arrangement and clear definitions admirably fit it for this purpose. The bold type and the vast amount of general information it contains commends it to the Teacher, Parent and Child.



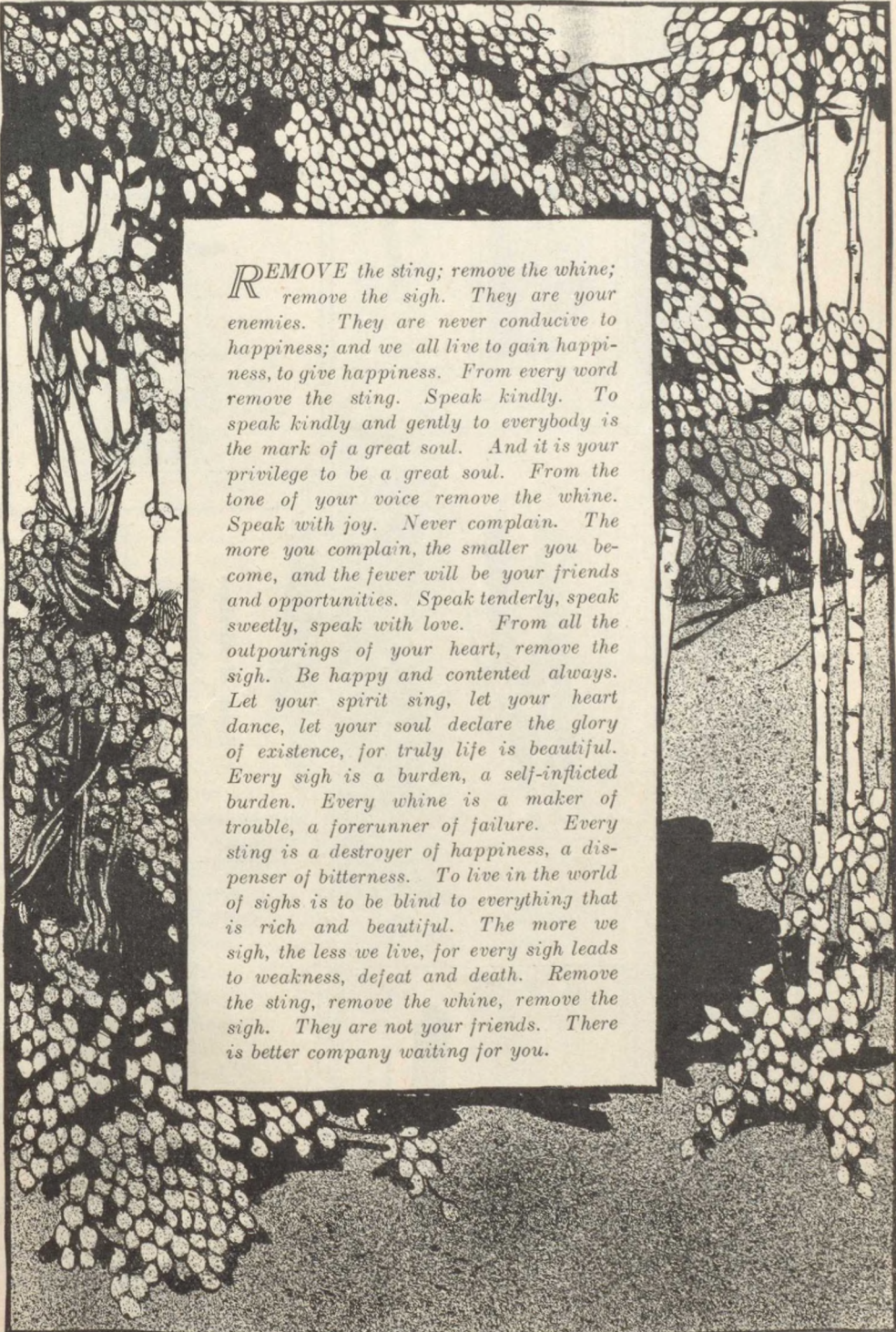
This cut shows Patent Thumb Index and how Dictionary appears when open. It lies perfectly flat. Size when open 8x11½ ins. Size when closed 5½x8½ ins. Contains over 1000 pages.

*In Convenience
of Size, Full-
ness of Contents,
Logical Ar-
rangement it is
especially
adapted to
every-day use
for Business
Man, Teacher,
Student and the
Home.*

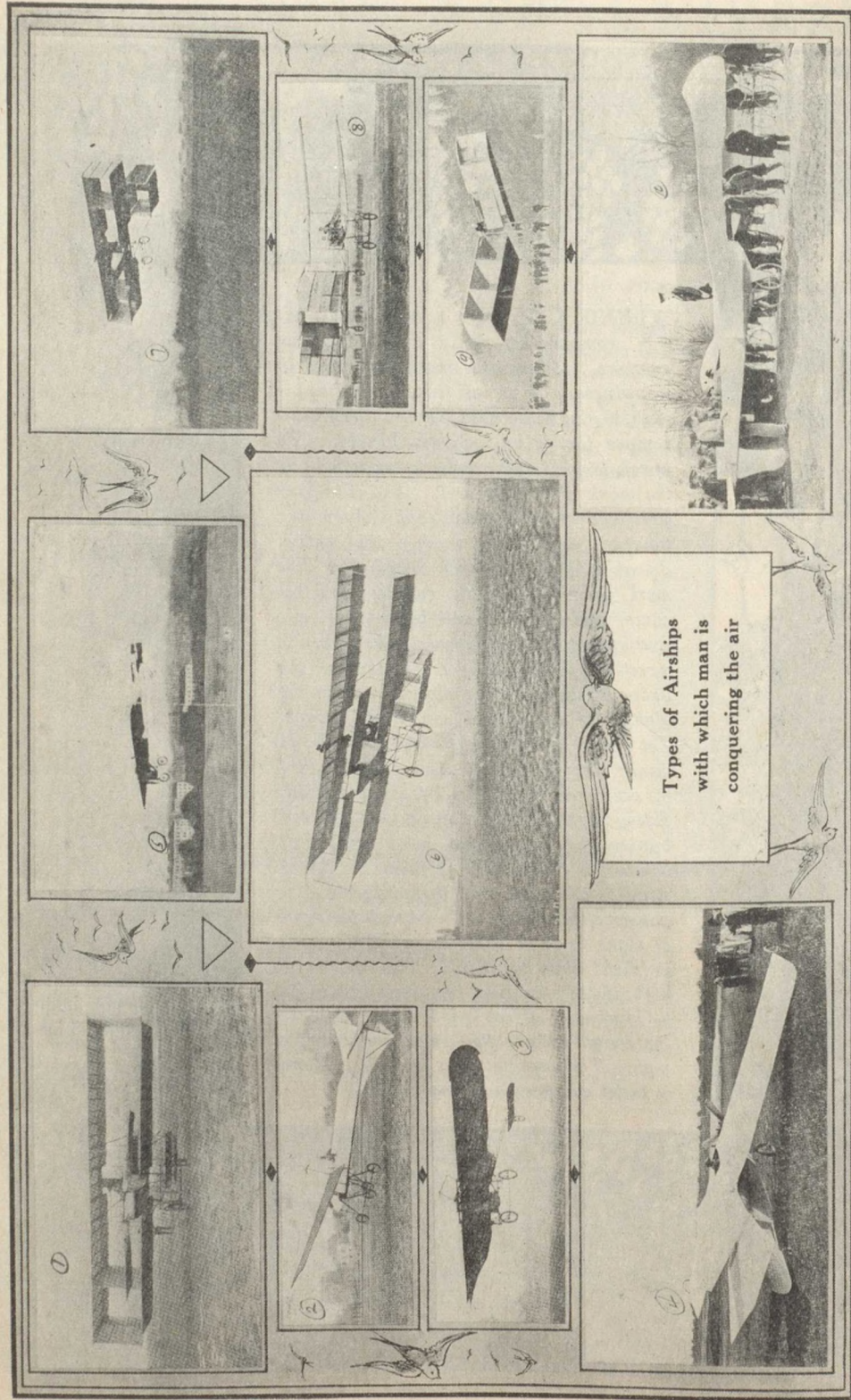


French Morocco Binding

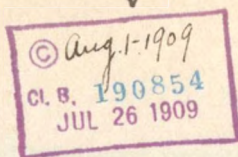
Absolutely flexible. The French Morocco binding is so flexible that the book may be rolled without injury to binding or sewing. It is reinforced in all necessary parts to add to strength and durability. Title stamped in gold on side and back, marbled edges. Patent Thumb Alphabetical Index.



REMOVE the sting; remove the whine; remove the sigh. They are your enemies. They are never conducive to happiness; and we all live to gain happiness, to give happiness. From every word remove the sting. Speak kindly. To speak kindly and gently to everybody is the mark of a great soul. And it is your privilege to be a great soul. From the tone of your voice remove the whine. Speak with joy. Never complain. The more you complain, the smaller you become, and the fewer will be your friends and opportunities. Speak tenderly, speak sweetly, speak with love. From all the outpourings of your heart, remove the sigh. Be happy and contented always. Let your spirit sing, let your heart dance, let your soul declare the glory of existence, for truly life is beautiful. Every sigh is a burden, a self-inflicted burden. Every whine is a maker of trouble, a forerunner of failure. Every sting is a destroyer of happiness, a dispenser of bitterness. To live in the world of sighs is to be blind to everything that is rich and beautiful. The more we sigh, the less we live, for every sigh leads to weakness, defeat and death. Remove the sting, remove the whine, remove the sigh. They are not your friends. There is better company waiting for you.



1—Moore Brabazon Biplane; 2—Gastambide Monoplane; 3—Bleriot Monoplane; 4—Esnault-Pelterie's Monoplane; 5—Bleriot Monoplane; 6—Farnum Making a Flight; 7 and 8—Delagrangé Aeroplanes; 9—Santos-Dumont First Aeroplane; 10—Bleriot Monoplane.



THE PROGRESS MAGAZINE

VOL. IX

AUGUST, 1909

No. 6

EDITORIAL

NOT so very long ago a number of prominent business men from a leading western city suggested a very novel remedy for financial ills. This new remedy was so similar to the mind cure that many began to look upon it as the same; and a little closer investigation proved that it actually was the same. Accordingly, a great deal of comment was forthcoming. Some looked upon the idea as utterly absurd, while others received it with more than usual favor. This was simply natural; all ideas are absurd to some minds; every truth known to-day was absurd to certain minds in certain periods of the world's history; while, on the other hand, every idea that has ever been expressed has been received as gospel truth by certain other minds. Between these two extremes we find groups of minds that always take the correct view. They are neither conservative nor radical; they are neither buried in old ideas nor entirely carried away by new ideas; they know that every idea contains truth just as every dewdrop, however tiny, contains water; but they also know that no one idea can contain all the truth any more than one drop can contain all the water.

THESE minds saw at once that the idea of giving mental treatment for financial ills was an idea that was certainly rich with possibilities. They agreed that it was not a fad by any means, and though it appeared somewhat strange at first sight, it bore no relationship whatever to the family of illusions. But they also agreed that it was not a "cure all," not a universal panacea, nor

"the one only secret." It was simply one of the many great ideas in the world of actual truth, and therefore contained power that man could turn to good account.

THE modern analysis of human life designates poverty as a form of sickness; and, like physical sickness, it is sometimes caused by external conditions, and sometimes by ignorance or neglect on the part of the individual himself. And it also resembles physical sickness with respect to prevention and cure. The community can prevent sickness to a great degree among its members, through the enactment and enforcement of sanitary measures; but a number of individuals do get sick nevertheless; they may obey the sanitary measures of the community, but they do not obey the laws of health in their own systems. In like manner, the community can prevent poverty to a great degree by providing laws of justice for every part of the industrial world; but no matter how just every part of the industrial world might be, there would still be poverty among a good many; and they, themselves, would be to blame.

THERE are certain people who never get sick, no matter what the atmosphere may be, or how unsanitary their surroundings may be; and there are certain people who always succeed, regardless of times, opportunities or industrial conditions. Put certain people anywhere and they come out with plenty; their power to succeed is greater than any adversity or obstacle that they may meet. And there are certain other people in whom the

power of health seems greater than any disease-producing condition that they may meet. This proves that the power of the individual is very great, and that health of every description—physical, mental or financial—will depend largely upon how the individual uses that power. That every individual can increase the power of health in his system has been demonstrated; in fact, recent conclusions declare that man can, through certain simple methods of mental and physical training, become so charged with the life, the vigor and the virility of health that no disease can gain a foothold in his system. And recent conclusions declare the same in regard to material supply. Poverty can be cured, and the only incurable cases are found among those who do not wish to be cured.

THAT poverty can be cured in the life of any individual who is willing to take the treatment is the verdict to-day; and this verdict does not proceed from "cranks" or theorists; it comes from practical men of affairs. The mode of treatment suggested is, in the main, mental. And to prove that the idea of giving mental treatment for financial ills does not contradict the newest science of to-day, the fact may be stated that some of the leading educators in the great universities of this country declare that poverty, as well as physical ills, can be cured by the power of the mind. They give their reasons, and those reasons are as sound as the principles of mathematics. But the most powerful argument is found in the fact that thousands have tried the treatment and have found that it works.

TO use the power of the mind in removing poverty, the idea is not that plenty can be brought into the life of the individual through the action of some hidden mental force. The course to pursue is quite the opposite. When we think of giving mental treatment for financial ills, the whole thing sounds somewhat mystical at first; but when we discover the law upon which this method is based, we find that it is no more mystical than memory or feeling. It is simply the constructive use of all the forces and powers

in the human mind. That is all there is to it; but that is enough. Learn to use all the powers of your mind constructively and you will pass from poverty to plenty just as surely as you pass from darkness into light with the coming of dawn.

WHEN we proceed to enumerate the principal essentials to success, we naturally begin with mental power, mental capacity, personal power, character, ability, stamina, force, determination, self-confidence, concentration, application, persistence, desire, ambition and will. And all of these can be enlarged or developed to almost any degree desired through the constructive use of the powers of the mind. To illustrate, we will first take the power of persistence. On every hand we meet great minds who have become great, who have risen to high places in life, and who have reached their goals principally because they would not give in. In fact, there are so many of these minds in the world to-day that we are ready to conclude that anyone may reach any goal he has in view if he will only persist. The more we study the lives of those who have succeeded, and the more closely we examine the mental attitudes of those who have failed, the more convinced we become that the secret of success can be condensed into one simple statement: "Don't be a quitter." But in order to comply with this statement, under every circumstance, it is necessary to train the whole mind to work fully and constructively for the object in view.

THERE seems to be no obstacle great enough to defeat the man who is determined to win. If he continues to persist he will positively succeed in his purpose, even though his ability in the beginning be ordinary and his advantages insignificant. The man who continues to persist regardless of the fact that failure follows closely upon the heels of failure, year after year, will finally win. This is a law that is just as unfailing as the law of gravitation; and therefore the new science of success has adopted persistence as one of its basic principles. Another principle is self-confidence. Believe in yourself. The more you believe in yourself the greater your power, the greater your abil-

ity and the greater your working capacity. This is a fact that nearly everyone has proved to be true; and anyone can apply the principle. The more confidence you have in yourself the stronger you will feel; and the more power you feel in yourself the more you will believe in yourself. Believe in yourself; then persist in doing what you want to do. You will find that no imaginable obstacle can stand in your way.

THAT ability is necessary to success is evident; but the fact that the ability of any particular individual may be small at the present time need not be an obstacle to him. Ability is like a plant; under the proper care and cultivation it will steadily grow and develop. And the best mode of cultivation is exercise. Use the ability you have, and with that use combine persistent desire, unbounded ambition and ceaseless determination; your ability will soon become larger and stronger and more efficient; and so long as all your mental forces are applied constructively, the development of that ability will continue; in time your ability will reach that height where you can make your most lofty ambition come true. Do not think that there is no attainment or achievement for you because your mind is small; your mind will grow, and continue to grow until it becomes prodigious, providing you apply constructively all the forces of your mind.

BUILD up your character; increase your mental power and your personal power; learn to concentrate all the forces of your mind upon that which you wish to accomplish; do not scatter your forces; turn all your forces in that direction that you wish to proceed; believe in yourself; think that you can; turn on the power of desire; desire that which you want; expect positively and eternally to get what you want; then go to work; work for that which you want, and continue to work with the full power of persistence until the object in view is gained. And that object will be gained; of that there can be no doubt whatever. In the meantime you will steadily gain ground, and he who is gaining ground has already begun to succeed.

USE these positive, constructive methods in your life and your work, and your financial health will soon begin to improve; and at the same time your whole life will be enlarged and enriched. The greater powers within you will no longer slumber; they will be alive and awake and will be at work, building for you a greater future. The best elements in your being will no longer lie dormant; they will all be taken up and employed in the reconstruction of a finer personality and a more magnificent mentality. Everything in your system will be used wisely and well, for the one great purpose will be to build; and everything will work with you to fulfill that purpose. All that is in you will be for you; and when any man has the whole of himself on his own side, it matters not what is against him; his victory is assured even before his movements begin.

TO train all the forces of your mind to become constructive, make liberal use of all the positive, upbuilding thoughts that you can think of. Say to yourself in your own mind that you believe in yourself; that you believe more and more in yourself; that you are determined to succeed; that you know that you will succeed; that you are growing stronger every day in mind and body; that you are becoming more and more ambitious; that you must have what you want; that you positively will have what you want; that you are greater than any obstacle you can possibly meet; that your character is becoming powerful; that your will is becoming irresistible; and that you will persist to go on and on with all the powers of body, mind and soul until your purpose is fulfilled and your most lofty dreams made true.

WHEN the greatest and best that is within you is thus brought forth into positive, constructive action, you will find that your power to create ideas has been multiplied many times. And the man with a new idea will soon say farewell to poverty and want. There is nothing that is more valuable than ideas; everything that has worth in the world had its origin in some idea; and everything of worth that the coming days will pro-

duce will come from ideas that have not, as yet, been created. But who is to be the creator of these new ideas? From whose fertile mind will they spring? The opportunity is for you. The demand for the new, the better, the greater, the more perfect, is constantly at hand. The whole world is eager for improvement; but first there must be improved ideas. Some of

these you can create, and thus secure some of the emoluments that will inevitably follow. No dormant, sluggish or half-awake mind, however, can create new ideas of great worth. It is the mind that is alive, positive and constructive that becomes fertile; and when your mind actually becomes fertile, you cannot expect too much.



Faith

By Raymon Forest Fritz.

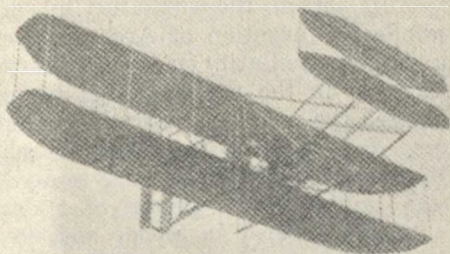
THE sun of Spring beams warm upon the earth,
And, deep amidst the mold,
The tiny germ imprisoned in the seed,
A captive of the darkness and the cold,
Feels the impulsion of the light and heat
To waken and unfold,
Then reaches out, it knows not how nor where,
And gains the freedom of the light and air.

The warmth and light of love and truth are shed
About my dormant soul,
And 'neath their touch there waken into life
New aspirations I cannot control;
I can but struggle forward through the dark
Toward the hidden goal,
Trusting that God, who guides the plant aright,
Will lead my life into the fuller light.



It Pays

TO be deeply grateful for all good things is not only a mark of superior character and manhood, but it pays. When you are never grateful for anything you fail to recognize the best that is in things; you recognize only the inferior, and thus keep your mind concentrated upon inferiority. To concentrate the mind habitually upon inferiority is to think the most of the inferior, and we grow into the likeness of that which we think of the most. Through this mental law the mind that is always ungrateful will finally become inferior, while the mind that is deeply grateful at all times will finally become superior. It is not possible to be sincerely grateful for all good things without giving constant attention to the larger, the higher and the richer side of all things; and we mentally move into those qualities and conditions that receive our undivided attention. The grateful attitude is expansive; therefore, the more grateful we are the larger and broader and deeper will our minds become. When you live in the grateful attitude, your mind will go out in every direction, and it will always go out toward the best, having only the best in view. Such a mind constantly lives with the best, thinks of the best and daily grows more and more like the best.



THE CONQUEST OF THE AIR

Progress In Aerial Navigation
BY JEWETT E. RICKER, JR.

NEXT to his creative ability stands man's imitative genius. Thus we find him in the earliest times busying himself in the study of the advantages with which other creatures had been endowed. We find him studying nature's functions and nature's laws in an effort to apply them to his own creations. There was undoubtedly a day when man knew not how to swim, and it is no doubt a fact that the strokes of the frog or some other aquatic animal formed the first lesson in this now advanced art. For, while swimming is an accomplishment universal with all races of mankind, it is nevertheless one of his acquired achievements. And so, while man was early able to gain the mastery of the water, it was with less success that he was taught to understand the mysteries of the air.

Man—his lungs inflated—can float on water, but man under the same conditions is unable to be buoyed up on air, and therefore the latter problem at once assumed propor-



tions vastly greater than the former. Then, too, the analogy between the problem of sailing on water and the problem of sailing on air is not so close as might at first be supposed. There is a general resemblance inasmuch that in both cases the propulsion must be made by means of a fluid, but even this significant similarity is quickly modified and made unimportant by the consideration of other things. In the one case the fluid is inelastic, while in the other it is elastic, and the physicist or mathematician knows readily how vastly different are the properties of liquids, even in fundamental points, from those of the aeroform or gaseous bodies.

It is for this reason that man, while comparatively quick to achieve the conquest of the water, has been slow and cumbersome in the mastery of the air. And yet the very fact that the latter problem offered the greatest difficulties has been the very factor in the desire of man—in all ages—to make it subservient to his will.

In watching the fishes of the sea his envious emotions were not long aroused; for man himself could swim. Later—after he had built his great ships—he even laughed at them. Likewise was it when he watched the fleet-footed animals of the land; for man, like they, could run. Now, with his automobiles and his steam engines, he laughs at them also. But with the sight of the bird, it was all reversed.

"To fly is godlike; to fail is man's," some writer said a while ago in describing the more recent of the aerial flights, and even in the olden days this clever paraphrase was undoubtedly believed. Mythology tells us of the flights of the gods to Olympus, but beyond these fictionary tales there is little evidence of progress in aerial navigation in the early days. Even the classical writers seldom alluded to the art of aviation, and excepting for the account by Horace in which he describes the flying dove of Archytas of Tarentum and a few purely visionary tales, there is no suggestion in the ancient writings that the mastery of the air was ever solved.

On the other hand, the ancients seem to have been convinced of the impossibility of man being able to fly, and they

appear to have made no attempts in this direction at all.

And yet in the summing up of the wonderful invention of Archytas there is a striking similarity in the description of Horace's to the problems that have confronted the more recent navigators of the air. In describing the dove of Archytas, the venerable Horace had this to say: "It was built along the model of a dove or a pigeon formed in wood, and so contrived as by a certain mechanical art and power to fly; so nicely was it balanced by weights, and put in motion by hidden and enclosed air." But though the question of the proper "weighting" interested even the ancient Archytas, it was probably a most crude contrivance, if indeed there was not a great amount of fiction concerning it.

And so while Archytas will probably always stand as the originator of aerial craft, it is to the experiments of Oliver Malmesbury, in the eleventh century, that the initial attempts should be traced. Malmesbury far outdistanced his early rival by the construction of two aeroplanes, which were not unlike those in use at the present day. The first of these had a great pair of wings, which persisted in "bucking" to such an extent that in the second one he added a tail, in the hope of modifying this disastrous effect. Neither, however, proved practicable, and so Malmesbury—like Archytas—soon abandoned the quest for the mastery of the air.

But if the western world was slow in its progress in aerial navigation, it was different in the eastern lands, for we find that inscrutable people, the Chinese, sending up balloons as early as 1306 A. D. to commemorate the coronation at Peking of one of their emperors. How long before this they had been doing so has been lost in the archives of antiquity.

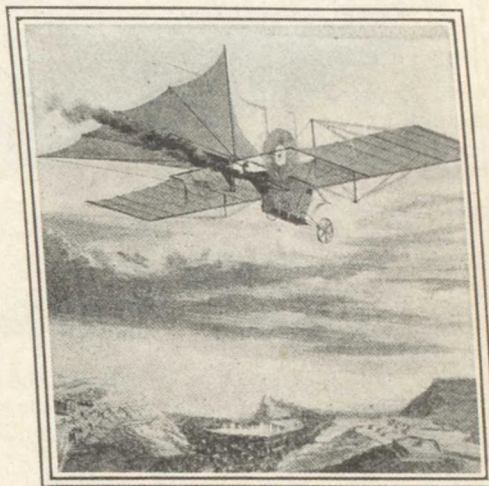
The next enthusiast in the history of aviation was Leonardo da Vinci, the Italian artist. It appears that in the spare moments of his busy life he used to work upon a curious object, which had a light framework and a pair of wings, like those of a bat. To obtain lifting power he made the wings in folding section, so that they should open on the up stroke and

close on the downward one. But though he kept working his mechanically contrived wings with all his strength, the bat refused to move. And so Leonardo da Vinci, like his predecessors, was doomed to disappointment.

It was probably owing to the invariable failures of the "heavier than air" machines that the men of the past soon turned their attention to the rival—balloon—type. The first of these was the parachute of Fauste Veranzio, with which he experimented in 1617; but time has drawn a charitable veil over the results of his efforts. Not long afterward, however, a native of Lisbon spent much time on paper baskets filled with hot air, but his researches also proved disappointing, ending literally as well as figuratively in nothing but smoke.

Sixty years then elapsed, in which time

for the time and encouraged men anew in the belief that the navigation of the air was a possibility within their reach.



AN ANCIENT IDEA OF THE MONOPLANE.

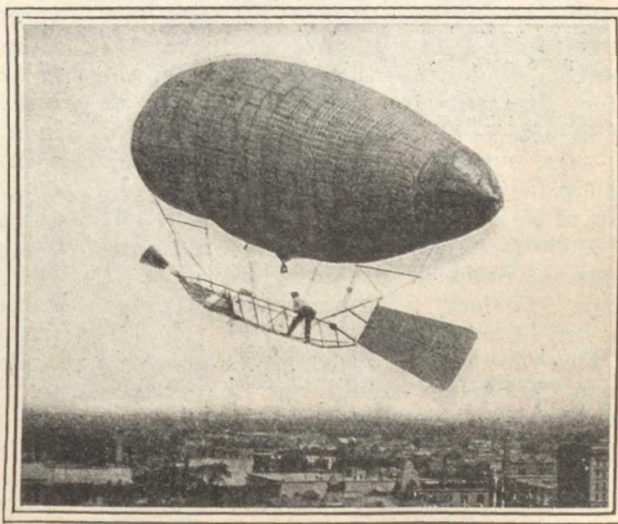


THE HELICOPTERE OF OUR ANCESTORS.
From an Old Print.

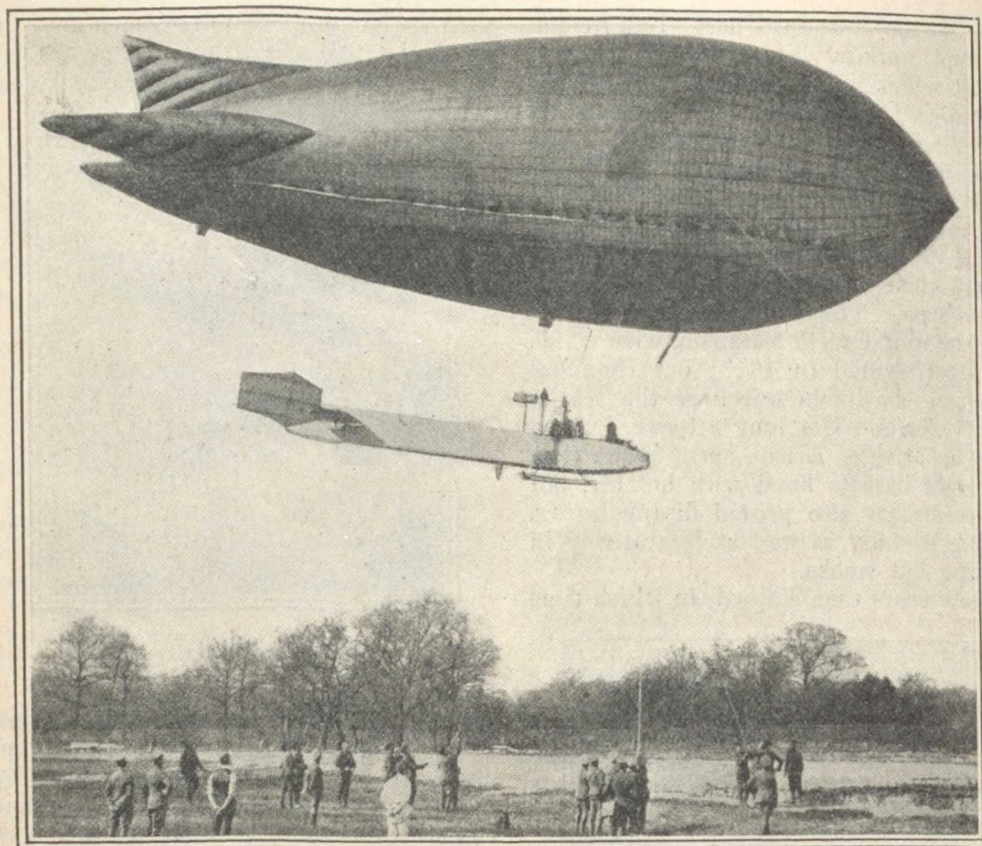
Among others, the brothers, Stephen and Joseph Montgolfier, took the matter up, and with considerable success. Being by nature more logical than most of their contemporaries, they began to ask why smoke always ascended, and finally reached the conclusion that heat had something to do with it.

Paper bags filled with hot air soon showed the soundness of their belief, and

inventive geniuses throughout the world occupied themselves in modest attempts at aerial flights. All of them were unsuccessful. But it was just about at the conclusion of this time that there came to the world its first real aerial sensation, when in 1677 Paris was startled by a weird object of enormous dimensions which flew above the city toward the Seine. "Le Diable! le Diable! quel horreur!" they cried, making a blind dash for safety lest the dragon should devour them. But in reality it was merely a "bon citoyen," the Marquis de Bocquerville, in his glider, a rudimentary aeroplane, much like those used by Lilienthal and the Wrights some years ago. This was not a bad sign



ONE OF ROY KNABENSHUE'S BALLOONS.



"THE FLYING FISH."
Testing the New British Army Airship.

so they promptly set about making experiments on a large scale. They soon discovered, however, that paper was very unsatisfactory. Sometimes it caught fire, occasionally it tore in two, and always it leaked. Aside from this, its lifting power when filled with hot air was too small to be of use. They had a few successes, to be sure, but only enough to make them all the more impatient to win a triumph. One of their fire balloons arose to a height of 1,000 feet, but then caught fire. Another, of immense size for those days, it being 112 feet in circumference, floated for ten minutes only.

These lessons were enough to prove to them that paper would not do, as the fabric for the bag, and so they decided to try something else. First they made a grotesque balloon out of linen, which resembled a barrel in the middle and was conical on both ends. But—as though angered at the trespass on its rights—a

storm came up and blew the whole thing away. The brothers, however, were not to be so easily downed, and so they persevered again. They made another. This time it was constructed of waterproof linen, with a capacity of 50,000 cubic feet. Into a basket attached to this balloon the brothers put a cock, a sheep and a duck. At first it shot up to a tremendous height and then, whether or not the animals fell to fighting is not known, it dropped with a discouraging velocity. But, however all that may be, the Montgolfier brothers soon abandoned their attempts.

One thing had nevertheless been proven by their tests, and science was therefore the richer for their work. It had been found that if balloons were to be at all practicable they must be made of, and inflated with, better materials. When things had reached this stage—and it seemed hopeless then—a scientist named Charles

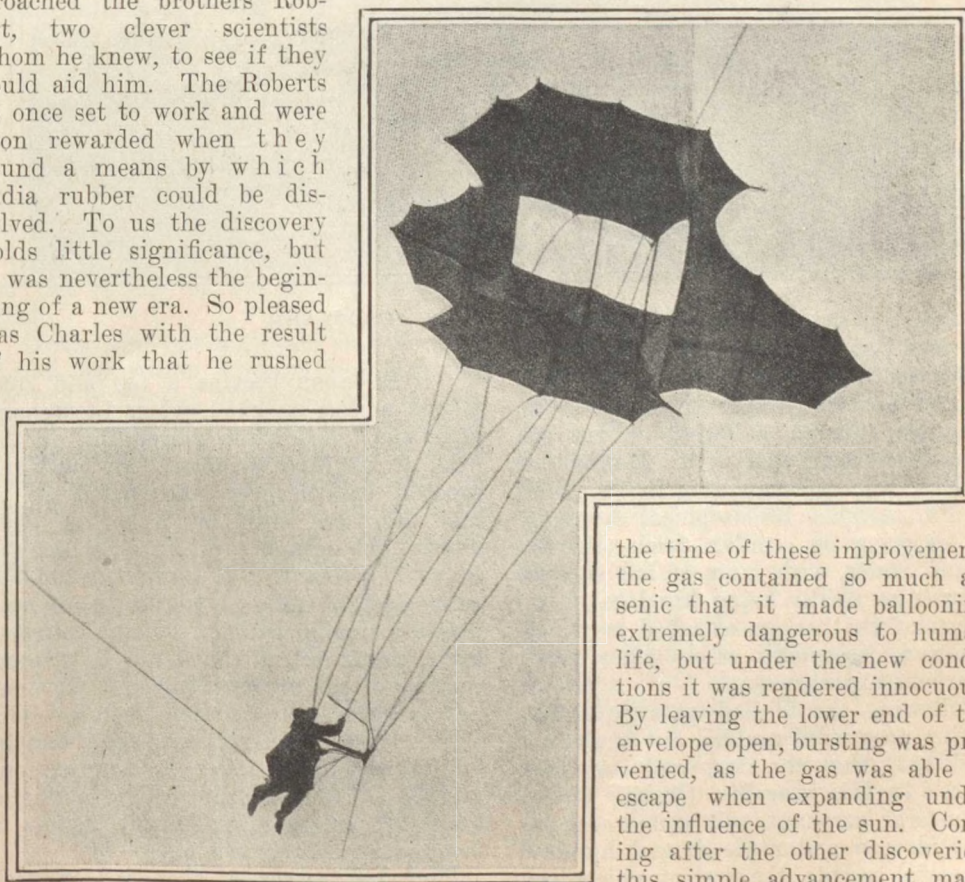
discovered a way to make hydrogen cheaply and in large quantities. The lightest gas known—it being about one-twelfth the density of ordinary air—it was just the thing for balloons. It had been tried by the Montgolfiers, it is true, but it could only be manufactured in a very crude fashion. On one occasion they had used as much as four tons of metal in generating their gas, and had waited four days for the envelope to fill, so that it may be seen that hydrogen was impossible in their day. Then, too, being so extremely subtle and difficult to retain, it was found that the gas escaped quite as fast as it was put in. Here, then, was a deadlock.

Clearly progress in this direction was impossible. But just as they lost hope another discovery was made. Charles knew that hydrogen could only be confined by some dense material, and approached the brothers Robert, two clever scientists whom he knew, to see if they could aid him. The Roberts at once set to work and were soon rewarded when they found a means by which india rubber could be dissolved. To us the discovery holds little significance, but it was nevertheless the beginning of a new era. So pleased was Charles with the result of his work that he rushed

off to the Montgolfiers with the news, and they—equally encouraged—at once set about to build a new balloon.

The resultant craft was of a character before unknown, having a light rubber skin fourteen feet in diameter, which was filled with hydrogen manufactured by the new process. But the triumph of the inventors was of short duration, for after rising to a great height on its initial trial, it burst suddenly with a clap like thunder, and fell into a field where some peasants were working. At first they were terrified by the sudden apparition, but soon became enraged and, attacking it with their instruments, hacked it to pieces.

It was soon after the conclusion of the Montgolfier brothers' experiments that two improvements were discovered which removed greatly the previous drawbacks to ballooning. The first was purified oxygen and the other the open neck. Up to



CODY'S PATENT AEROPLANE.

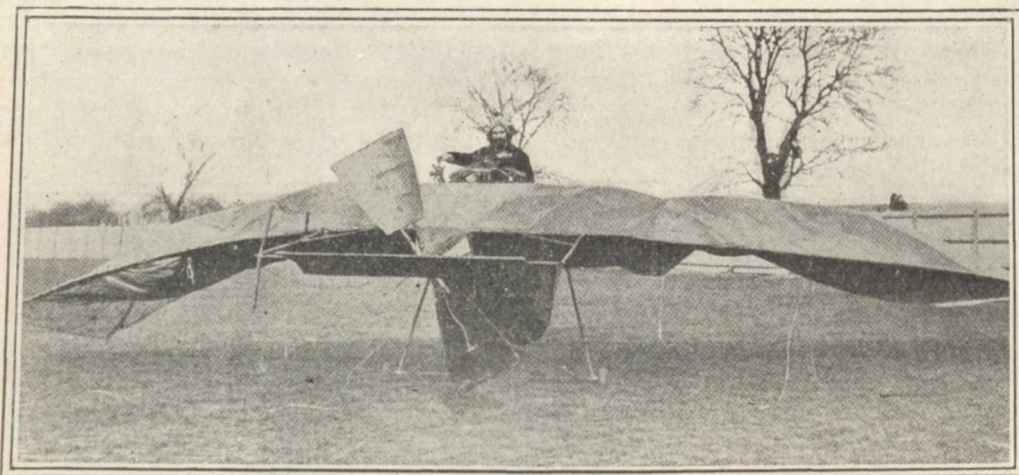
the time of these improvements the gas contained so much arsenic that it made ballooning extremely dangerous to human life, but under the new conditions it was rendered innocuous. By leaving the lower end of the envelope open, bursting was prevented, as the gas was able to escape when expanding under the influence of the sun. Coming after the other discoveries, this simple advancement made ballooning a practical science,

particularly when ballast and a trailing rope were used.

In 1785 the English Channel was crossed by a balloon for the first time in the world's history, Messrs. Blanchard and Jeffries starting from Dover and landing safely near Calais. Soon after this an aeronaut named Bozier was killed while emulating the example of his predecessors, as his balloon exploded at a great height, hurling him to the ground. This and other accidents with balloons aroused a popular prejudice against the sport and so the pendulum swung back again in favor of the heavier-than-air machines. Numerous experiments were carried on in

of George IV. The next important event occurred in 1836 when Mr. Robert Holland, Mr. Monck Mason and Mr. Charles Green ascended from Vauxhall Gardens in a large balloon and flew 500 miles in eighteen hours, descending at Weilburg, in the duchy of Nassau. This balloon contained about 85,000 cubic feet of gas and subsequently became famous as the "Nassau"—a name it took in honor of its first great flight.

Soon after—in 1828—Mr. Green made a notable ascent on the back of a pony, which was carefully fastened on a platform attached to the bottom of the balloon. Equestrian ascents—such as that



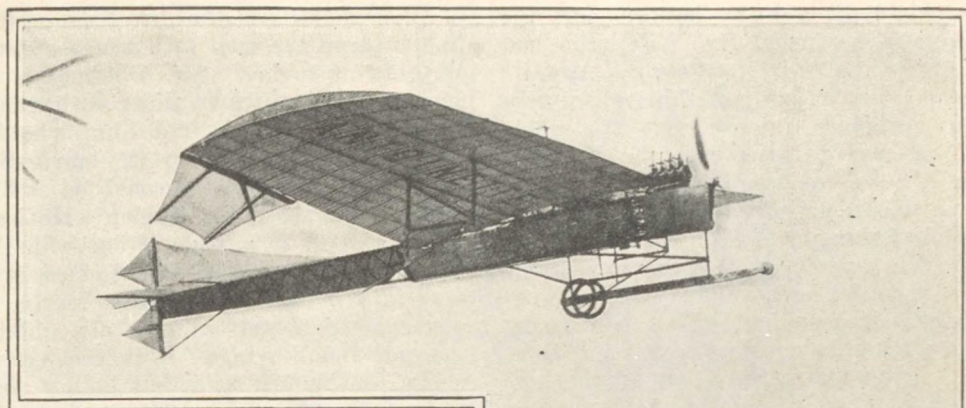
EMILE BELLAMY AND HIS AEROPLANE.

all parts of the world along various lines, but the heavier-than-air machines were, of course, dismal failures. About the time, however, that the Montgolfier brothers were experimenting in Versailles the Philadelphia Philosophical Academy was carrying on similar trials in the United States, with more or less success, a carpenter finally being hired to go up in one of the baskets attached to a balloon and descending safely after many hazardous experiences.

Following the Philadelphia tests ballooning progressed rapidly, but it was not until 1821 that the next real step took place. In this year Mr. Charles Green, the veteran aeronaut, substituted coal gas for hydrogen and made several hundred successful ascents, the first of which took place on June 19, 1821, the coronation day

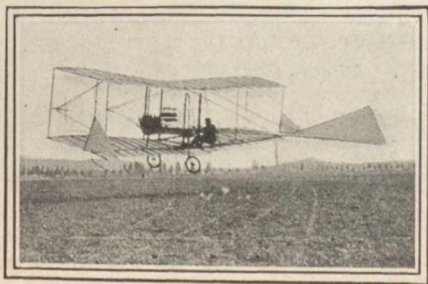
of Green—soon became a fad and continued as late as 1850, when Lieutenant Gale was killed while descending on the back of his favorite horse. In 1863 the greatest balloon ever constructed up to that date was built by Nedar, a well-known photographer of Paris, which he called "Le Geant." It contained 200,000 cubic feet of gas. Underneath it was placed a smaller balloon, called a compensator, the object of which was to prevent the loss of gas during a voyage. The car had two stories and was, in fact, a model of a cottage in wickerwork, eight feet in height by thirteen feet in length, containing a small printing office, a photographic department, refreshment room, a lavatory, etc.

The first ascent of this balloon took place on October 4, 1863, from the Champ



de Mars. There were thirteen persons in the car, including one lady, the Princess de la Tour d'Auvergne, and the two aeronauts, Jules and Louis Godard. The flight of this balloon was truly a success and it soared some 400 miles on numerous occasions. But the most interesting feature of the work of Nedar is found not so much in the success of his balloon as in the conception in his mind of a craft to be propelled through the air by means of a screw. It was in fact to obtain money to further his experiments in aerial locomotion that Nedar built his balloons at all, which he himself called "the last balloons," through his belief in the success of the screw-propelled craft.

Nedar also was a pioneer in furthering aerial navigation through the fact that he had published "L'Aeronaute," a newspaper devoted to the cause of aerostation. Nedar, however, was not enough of a scientist ever to have done much toward the success of aerial navigation, many of his principles, as shown in his writings, being totally devoid of scientific worth.



CAPTAIN FERBER'S AEROPLANE.



AN ITALIAN CAVALRY HORSE SHYING AT THE APPROACH OF A MONOPLANE.

Directly after the ascents of Nedar the largest aerial machine that had ever been made was constructed by M. Eugene Godard, it having a capacity of 500,000 cubic feet. Godard's balloon was in many ways a return to the Montgolfier fire-balloon, it being inflated by heated air generated by an eighteen-foot stove, weighing, with its chimney, 980 pounds. This furnace was fed by straw and the car consisted of a gallery surrounding it. Two ascents were made by this balloon at Cremorne Gardens, England, in 1864—the second one bringing about serious injury to the craft when it hit against a tree.

But all of the ascents made by Mr. Godard were most picturesque, with the flames roaring up the chimney of the furnace to the great globe above. The next event of importance in the story of aerial navigation occurred in 1873, when the proprietors of the New York Daily

Graphic built a huge balloon for the American aeronaut, Mr. Wise, who had expressed the desire to cross the Atlantic Ocean. The building of this balloon elicited worldwide interest, but the whole project came to grief with the discovery that the balloon was faulty in construction, which determined Mr. Wise to abandon his attempt. But interesting as the following history of the ballooning side of aeronautics is, the subject of the heavier-than-air machines which now began to come into being must occupy our time.

The first real heavier-than-air machine was built by a Mr. Henson in England in 1842. It resembled the modern aeroplane and had great wings, and even in the light of present advancement must be regarded as a thoroughly practicable machine, in so far as its constructive lines were concerned. But Mr. Henson's chief claim to fame lies in the marvel of his propelling machine, which was the lightest that had been constructed up to that time, and which sent two nations into ecstasies over the possibility of the immediate solution of the vexing problem. The machine, however, was still too heavy to allow of much success, and so it was doomed to early failure.

Following the patent of Mr. Henson all sorts of flying machines were patented, and the designs were considered mechanically practicable, but in every case there was the matter of the power that was to work the propellers, and the ability to carry the power producer was never reached. The next invention to excite interest was that of W. F. Quimby, who, in 1869, patented a well-appearing pair of wings, arranged very much as a bird's are. Quimby was the first of a series of men who attempted to fly with such paraphernalia, and with considerable success.

Quimby never succeeded in flying, but he was followed by the German, Lilienthal. This man worked for forty years upon the problem of flying, as does a bird. As a boy he used to run down hill with improvised wings. He died as a middle-aged man, taking a flight from a hillside in much the same manner. His was the scaring theory. Taking a rapid flight from an inclined hillside, he would leave it and soar away on his wings.

After Lilienthal came Octave Chanute

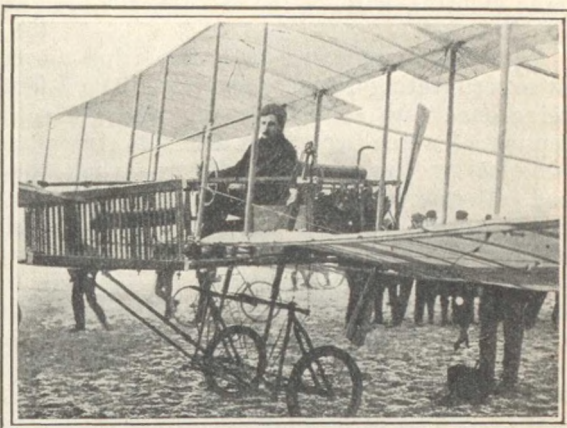
of Chicago, who is the direct connecting link between the men with wings and the Wrights of to-day. Mr. Chanute is an engineer and railroad builder with a long record of activity behind him, who became early interested in the navigation of the air. His machine consisted at first of three planes and a rudder. He built a chute from a hillside, from which it might gain speed that would cause it to soar into the air. From this inertia he was enabled to get into the air and try the new-found wings. But the experiments of Chanute were but hollow forecasts of the phenomenal things that were soon to occur in the realm of aerial navigation.

The first airship to fly by its own power was "La France," which as far back as 1884 made a satisfactory circular trip. Yet in spite of this promising beginning it remained for a celebrated German—the present master of aeronautics, Count Zeppelin—to construct ships capable of lengthy flights. Count Zeppelin, who was an officer in the imperial army, soon foresaw the advantage of an aerial fleet and studied energetically to solve the problem. But before narrating the result of the work of Count Zeppelin it is well to go back a little and resume the thread of the story in which the early history of aeroplanes figures.

The aeroplane may be said to have had its birth about eighteen years ago, when Sir Hiram Maxim made one of large size, which was the first to raise itself by its own power. Being, however, severely handicapped by the heavy engines of that period, he was unable to carry out the early promise of his invention. At the same time Sir Hiram is to be credited with building a steam engine of remarkable lightness for its power, for his aeroplane, being in fact the marvel of the age, though heavy in comparison with the light motors of to-day. Soon afterward experiments began to have a really practical value, as aviators had a chance of trying differences in the construction of flying machines, owing to the discovery of the petrol motor. There was plenty of scope here, for the pioneer machines were unable to rise, or, when they did so, plunged erratically and were wrecked.

Experimenters therefore came to the conclusion that they had better learn something about the correct method of designing aeroplanes first. For this purpose "gliders" were used, which were machines made of a light framework of bamboo, covered with fabric. Sometimes there was only one surface, but generally there were two, usually coupled at the ends or partitioned off like modern box-kites or aeroplanes. They were merely used for supporting a man's weight, and had no engine or propeller, and yet it was the experiments of Chanute and Lilienthal along this line which taught the Wrights of to-day their first lessons in the now advanced art. For from these tests they discovered the effect of using one, two, or more main planes, the size required for a certain weight, and the best method of constructing them.

So it was that by the time the petrol motor was ready for the aeroplane, the aeroplane was ready for the engine, and the combination of the two in their new forms was so successful as to astound the world. It was while aeroplane construction was in its primitive stages that the matter of flying machines was given attention by the United States government, which employed Prof. S. F. Langley, then secretary of the Smithsonian Institute, to make a thorough study of the subject of

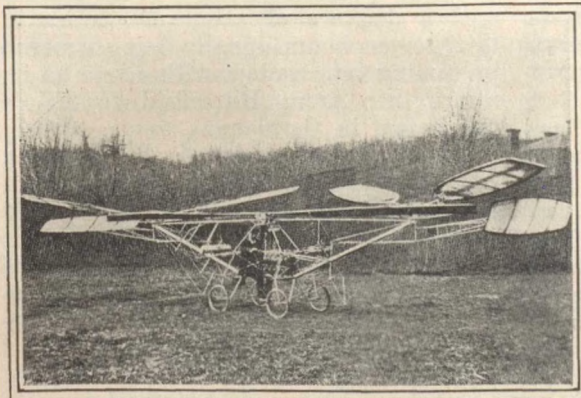


M. DELAGRANGE ON HIS AEROPLANE.

aeronautics. Langley carried his experiments along purely scientific lines and deducted mathematically certain laws of aeronautics, as, for instance, the lifting power per square foot of an aeroplane surface in given wind velocities. Langley's aeroplanes were never patented because it was intended that the results reached should be public property and add to the accessible material that might be used by men engaged in the solution of the problems of the air. The movement, however, received a setback when his last machine collapsed, but the information he had gathered was of great value to all who followed him.

The events that immediately followed the experiments of Langley revolutionized the construction of both dirigible and heavier-than-air machines and soon led up to the first really successful achievements.

The first flight with an aeroplane driven by an engine was made by Santos-Dumont on October 19, 1902. Named the "Libellule," the machine was very small, so much so, indeed, as to make visitors at the recent Paris Salon—where it was exhibited—marvel that it could support a man. This is largely accounted for, however, by the Brazilian inventor's light weight. Flying on that occasion from the Parc d'Aerostation in Paris round the Eiffel Tower and back in thirty minutes forty-one seconds, he was awarded the Deutch

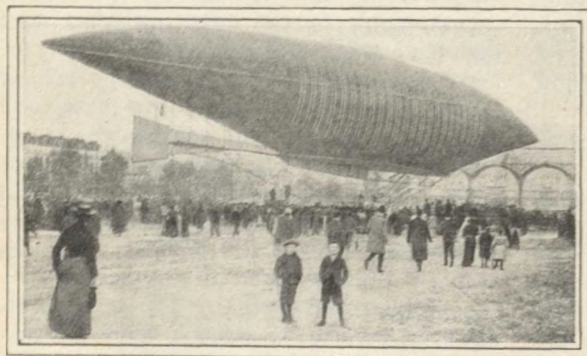


THE CORNU HELICOPTERE.

This strange flying machine is of the type known as "helicoptere." The lifting power is supplied by two screws revolving in a horizontal plane. Additional propellers are used for horizontal movement.

de la Meurthe prize, of the value of 100,000 francs.

With this performance there was a lull in experimenting for several years, little being done with aeroplanes with the exception of a few scattering attempts in America by the Wright brothers—who had just entered the field—and others. A great controversy took place, too, as to whether machines of the mono-plane, bi-plane, or helicoptere types were the best, each having its own adherents, and each giving a good deal of trouble. Starting was another difficulty, as they had either to be towed to great heights, shot from a derrick, or else raced along the ground at twenty miles or so an hour. There was also a great deal of trouble with the bicycle wheels used for traveling along the



LEBAUDY'S DIRIGIBLE BALLOON,
THE "JAUNE."

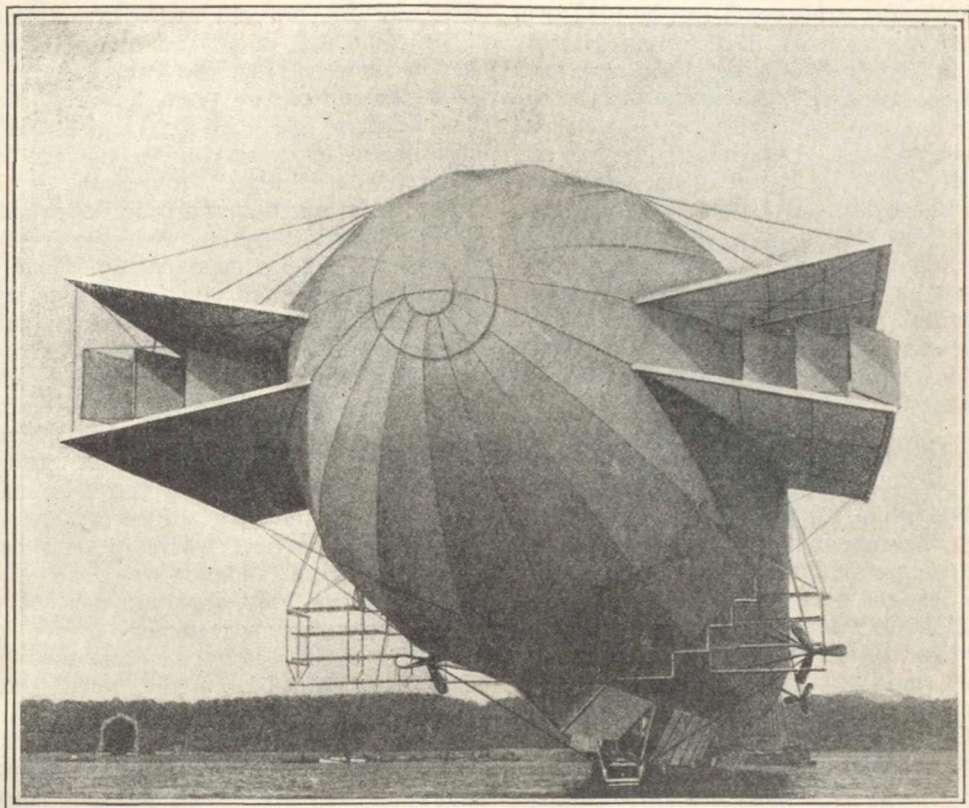
ground, for they were continually buckling, so that the planes were often damaged. In fact, troubles were so numerous as to make artificial flights seem almost impossible.

It was while the heavier-than-air machines were temporarily being abandoned that Count Zeppelin took out his first patents for dirigibles. Likewise it was about at the same period—a little before, in fact—that Capt. T. S. Baldwin came into prominence by the construction of his dirigible balloons in America. Count Zeppelin's first dirigible was built upon the same lines that have been followed in his later airships. A light, rigid frame of aluminum contained an elongated envelope, divided into several compartments, the motor, passenger seats and propellers being suspended below.

Always an advocate of the rigid system, the Count, after some mishaps, proved conclusively the value of his system. His first great success was scored on July 1 of 1900, when, in a test at Lake Constance, the Count took his machine into the air to a height of half a mile, and while at that altitude maneuvered it as easily as though it had been a ship on water. The airship obeyed, in this test, both its rudders and propellers with great satisfaction. This original dirigible was built at a cost of \$250,000 and carried five men in its now famous trial trip. The balloon was by far the largest ever constructed, having a length of 419 2-3 feet, while the cylindrical balloon was 37 feet in diameter.

The more recent experiments of Count Zeppelin have all been along the same lines as his original efforts, and his present airship is a duplicate—while an improvement—in many ways of his original craft. Many of the attempts of Count Zeppelin have terminated disastrously, many of his ships having been destroyed in the course of their trials. But with the indomitable courage for which he has become famed the Count has only been spurred on by these mishaps to greater tests and has made each of his succeeding dirigibles an improvement on the first. His present ship less than a month ago broke all preceding records when it covered a distance of about 850 miles in thirty-seven hours—finally being wrecked by coming into contact with a tree on its return trip from Bitterfeld to Friedrichshafen, in Germany.

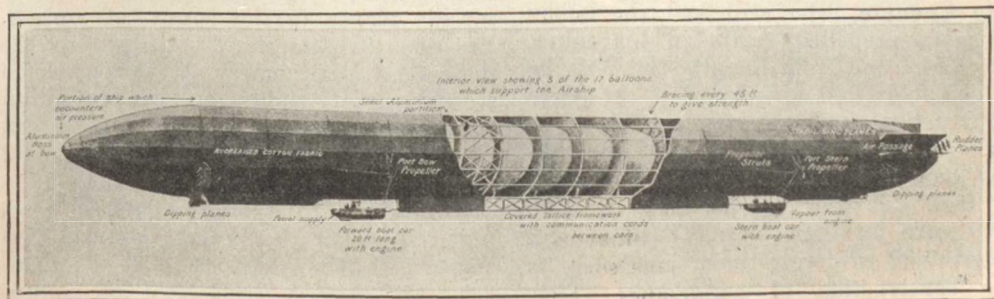
As at present designed the Zeppelin consists of a huge skeleton framework of aluminum alloy, over which is stretched continental rubberized fabric. The ship is sixteen-sided, the long latticework girders springing out in graceful fashion from the solid central prow, giving the ship the required shape. At intervals of about forty feet there are transverse rings of metal latticework, which impart rigidity and strength to the whole structure and serve to divide it into a series of chambers. In each chamber is a gas envelope, separated from the next bag by a thin



THE AIRSHIP THAT COVERED OVER 200 MILES IN A SINGLE FLIGHT.
A "Nose-View" of Count Zeppelin's Aluminum Airship.

sheet of aluminum. The whole design is a work of marvelous engineering skill in which weight has been saved and strength retained in a most remarkable fashion. This mode of construction is very costly, and owing to the weight of the metal employed the vessel has to be made very long to obtain buoyancy, the usual length being about 440 feet. But as the cross

diameter is less than fifty feet (and thus smaller than that of the non-rigid or semi-rigid vessel of half the length) the head resistance is relatively small. The advantages are numerous and cannot be attained by any other mode known at present. Far higher speeds are possible than with any other dirigible; the seventeen separate gas envelopes are protected



A SECTIONAL VIEW OF THE ZEPPELIN AIRSHIP.
Showing the Arrangement of Seventeen Internal Balloons Which Support the Airship.

from injury; the vessel can be used over water, owing to its floating cars; it can mount duplicate engines of considerable horsepower; and it has a far wider range of action and utility than any other aerial vessel. Count Zeppelin has practically spent his life in the solving of aerial navigation and already holds every record in speed, distance, altitude and duration in the air.

A keen rivalry at present exists between Count Zeppelin and Majors Gross and Parseval of the German army, each of the latter having designed dirigibles of the non-rigid kind. Both these vessels have done well, but have also had serious accidents, and do not seem to be as easy to handle as their famous competitor.

But while the dirigible of Count Zeppelin has accomplished remarkable feats, the progress in this line of aeronautics has been no more remarkable than in that portion devoted to the perfecting of the heavier-than-air machines, which takes us back again to the career of the Wright Brothers of Dayton, Ohio, who have electrified the whole world by their tests.

Soon after the early attempts of Santos-Dumont it became known in Dayton that two boys of the town—Orville and Wilbur Wright—were busily engaged in the construction of a "flying machine," and the accompanying and natural guffaws resulted. The boys had always been most well behaved and modest bicycle repairers until the question of aerial navigation suddenly came up before them and determined them to solve its perplexities. At about this time the lull in aeroplane construction, as already stated, had caused the world to turn its attention to the Zeppelin type of ship. But there was in Chicago the irrepressible Octave Chanute, who still had the hobby of motor-propelled crafts in his mind. From him and from Langley the Wrights gained their first knowledge of aeroplane construction, and at once set about to make a comprehensive study of the subject they had undertaken. So confident, in fact, did they become that in 1900 they gave up their bicycle business and determined to devote their time solely to the construction of aeroplanes. They settled down to real tests on the sandhills of eastern North Carolina, but their

first machine was not up to expectation. They could sail it only as a kite, directing its motions from the ground.

At the end of two years, however, they had built a real man-carrying machine and succeeded in staying in the air for a minute at a time. A year later, in 1903, their first triumph came when they built a power machine with motor and propellers, which remained up about a minute and traveled 900 feet. This was the first heavier-than-air machine that had ever raised itself by its own power with a man in it. This success had come about through the discovery of a single patent—the only one held by the Wright brothers in America. In that patent they were, above all else, thorough and showed their mastery of every detail. They were practical where others had been theoretical. There was one vital point, and one only, that was new. The planes were made adjustable.

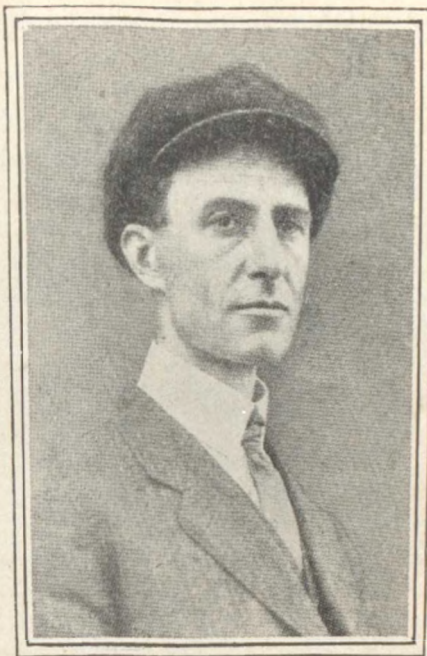
This is to-day the only feature that the men who have beaten the world have originated. And yet in this patent they solved what the centuries before them had only dreamed of. By a series of pulleys and cords they made their machine adapt itself to the eccentricities of the winds by being able at any time to set their planes to the air, and thus insure the proper balance of their machine. The aeroplanes themselves are thus made to perform the work of a balancing rudder.

The records of the United States Patent Office disclose the singular coincidence that about the same time the Wrights were securing this priceless patent, J. J. Montgomery, a college professor at Santa Clara, Cal., was mailing to the same office an application for a patent almost exact in nature, in which cords were able to set his planes to the winds at option. But the Wrights were first, and so the undaunted Montgomery was never able to secure patent rights on his invention which later—during an ascension—ended in a tragedy that closed his experimental career.

Following the success of their aeroplane in 1903, the Wrights returned to Dayton, where they established themselves in a large level field of eighty-seven acres of pasture land. Here, in 1905, they constructed a larger machine

—with a horsepower of 15-21—in which the operator was able to travel in curves, rise or descend almost at will, and remain in the air for a minute at a time. In 1906 they gave their first public exhibitions at Kill Devil Hill, North Carolina, and created a world-wide sensation by the success of their flights. Two years later—in the summer of last year—Wilbur Wright went to France in quest of the Michelin prize of 20,000f. and the Aero Club's prize of 5,000f. offered for the greatest distance covered by an aeroplane in the year 1908.

Here—before an audience of military authorities from all over Europe—he made the most remarkable flights ever witnessed and broke his own records successively except for a brief period in which an accident to his machine allowed the French aviator, Louis Delagrangé, to capture the record with a flight of 31 minutes. In the meantime, Orville Wright, at Fort Myer, Virginia, broke all preceding records by remaining in the air for 57 minutes, a record which he himself smashed a few hours later in a second flight, in which he stayed in the air for 1 hour 2 minutes and 30 seconds. It was while competing for the United States government contract in September of 1908 that the distressing accident occurred to Orville Wright's machine in which Lieutenant Selfridge, a noted



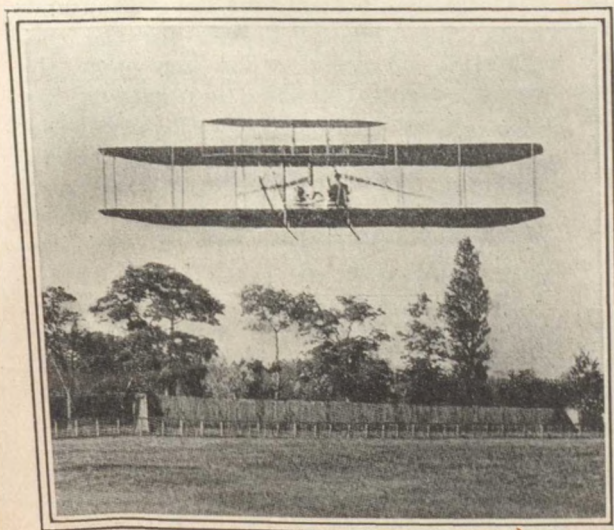
MR. WILBUR WRIGHT.

aeronaut, was killed and Wright himself seriously injured.

It was soon after this catastrophe that Wilbur Wright, at Le Mans, France, again claimed the attention of the world by sailing his aeroplane against an eighteen-mile wind, covering twenty-five miles and remaining in the air for more than fifty-five minutes. In December he again broke all records, flying longer and further than any man had ever done before.

In short, Wilbur Wright, who had been received in France with the cognomen of the "Yankee bluffer," took all of the prizes for which he competed, and, in addition, sold his aeroplane rights in that territory for \$100,000. His succeeding triumphs and the visits of King Edward, King Alfonso and other crowned heads of Europe to his camp are too fresh in the public mind to need of retelling, as are the recent triumphant receptions of the Wright brothers here in America, to which they have returned in order to demonstrate their machines at Washington.

A short study of the Wright aeroplane cannot fail to be of interest. The chief feature of the aeroplane of to-day, as exemplified



THE WRIGHT AEROPLANE.

in the Wright machine, lies in the application of the petrol motor to the propelling blades. The Wrights were the first to apply it to their machine, and it is the lightness of its construction that has made possible the present aeroplane.

The propellers force the machine through the air, and the two planes—from which it gets its name "biplane"—support it. The two main planes are rigid except at the tip, which can be twisted in order to prevent too much tilting when turning. If the machine is dipping down too much toward the earth the aviator corrects this by altering the inclination of the horizontal rudder in front of him. The rear rudder blades steer to right and left, just as the ship's rudder acts. The length of the cutting or "entering edge" is very important. It has been regarded as necessary to have one foot of entering edge for every four pounds of weight. It has been found that 100 feet of supporting area arranged as a square does not support so well as the same area arranged in a plane 50 feet long by 2 feet broad.

As the length of the plane becomes difficult to handle, as in the case of the biplanes, it has been cut in two and one placed above the other, which accounts, very simply, for the structural appearance of the Wright machine. The whole mechanism is handled by the operator, who is seated in a central location on the lower plane. During the past year aeroplanes have successfully flown in all sorts of weather, having been found practicable in fog, rain and wind, so that the crude stages can easily be seen to have been safely passed, and the aeroplane will be, from now on, a fixture among the achievements of man.

But while the Wrights took the lion's share of the aeronautical honors for 1908, there are many other inventors close to them in advancement. Of these, Henry Farman of Paris was the most successful, his machine greatly resembling the Wright's, and offering vast possibilities of future success. A close third was that constructed by Leon Delagrangé, another Parisian, which also resembles the Wright machine in important details. In America still another successful aeroplane was active in the aeronautical annals of the

last few months. This was the June Bug, operated by Glenn H. Curtiss, which won *The Scientific American* trophy for the first public aeroplane flight of a mile in a straight line in America. It developed the remarkable speed of thirty-five miles an hour. Several inventors have also been busy with the construction of helicopters, in which the motor works the propeller blades or wings through a vertical shaft, causing the machine to ascend almost straight up from the ground. The only one of these machines at all successful as yet is the one operated by J. N. Williams—an American—who claims a speed of thirty miles an hour for his machine.

Altogether, up to date, there have been some 500 flying machines patented by Americans. There have been many times that number protected by foreigners in this country, it being estimated that there are five times as many men in France alone working upon the problems of the air as in the United States.

It is a long call from that far-off day of Archytas and his flying dove to the present year of 1909, and this very fact is the greatest compliment we can bestow upon our generation, for it is to be our proud privilege to witness the final solution of the problem that has occupied the greatest minds of all the ages of which history records. The flying machine in fact—not fiction—is here at last.

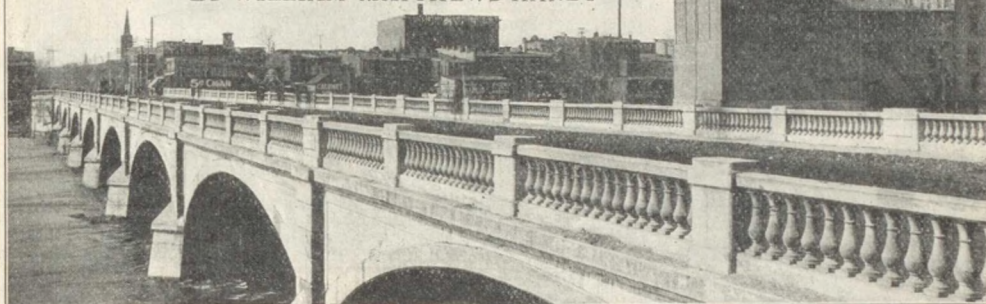
Germany—by appropriating thousands upon thousands of dollars for the construction of aerial rifles—has gone the world a step better by acknowledging, not only the success of the airship, but the possibility and probability of the aerial-warship. Zeppelin, by his great recent flight, has frightened the war department of France into panic, and so who can dare to prophesy the result?

Who can say but that in five years the history of the world will be given another of its jolts and that in ten we will be riding, not on rails and not on seas, but in the air? Who can tell but that the peace tribunal at The Hague will be adjourned sine die and that an expression of thanks—world-wide in scope—will be voted to the airship, which will have put an end to war for all time?

CEMENT

The Building Material of the Future

BY WILLIAM MATTHEWS HANDY



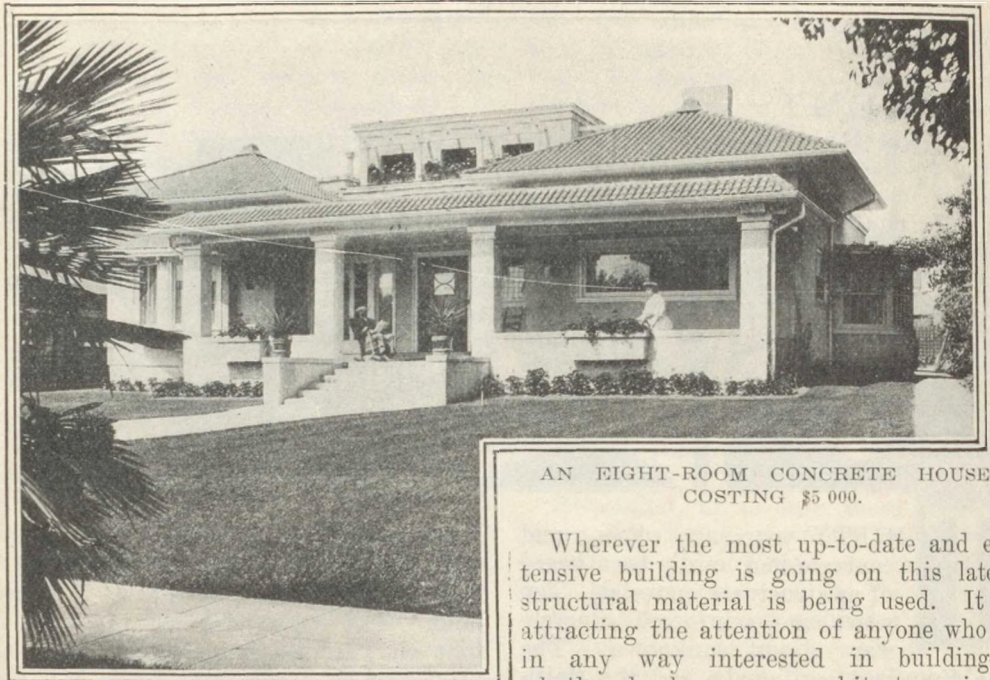
THIRTY years ago cement and concrete had hardly been heard of as structural materials. Ten years ago reinforced concrete was almost unknown. The San Francisco earthquake and the Baltimore fire tested both these materials and found them good. Since those great disasters the increase in the use of reinforced concrete, and, consequently, of cement, the bonding material of concrete, has been phenomenal.

For a long time of great service in the hands of the engineer and mason, cement is not found there in lesser quantities today, but it has passed on into the hands of the builder, decorator and maker of utilities, of a hundred sorts, in the manufacture of which stone and wood have for centuries been the common material. Cement not only adapts itself to the most various and practical uses, but it readily lends itself to molds of the most intricate and artistic shape.

The twentieth century has with reason been called the cement age. No building material ever gained in popularity as that has in the last decade. And the prophecies of what we shall see ten years hence, in the adoption and use of this material, rival the visions of the Apocalypse. We shall see a new city and a new country, for the flimsy wooden structures will have passed away, and behold new cities of beautiful concrete and countrysides where barns, dwellings, posts and even pigsties shall be of this material, and beautiful.

In no city in the Union, perhaps, except in San Francisco, has this material been so largely used already as in Cleveland. The reconstruction going on in that city, in the interests of beauty, of protection from fire and decay and vermin, is attracting the attention of the whole world. Most wonderful work in concrete bridge building has been done or is now going on in many places, but the largest concrete arch ever built will span the Rock River Gorge, on the western boundary of this city. It will have a clear span of 280 feet. Cleveland, like many other cities, has some wonderfully artistic concrete structures in its parks—bridges, benches, pavilions, swimming pools, electroliers, walls, and even roadways. The model correction and tuberculosis colony in Cleveland is built of concrete. In the workhouse for prisoners, in the houses for the indigent poor, and, especially, in the hospitals, the use of this material insures good sanitation.

Mr. Richard L. Humphrey, who was selected by the government as the best equipped to investigate the building material problem, resides in Cleveland, but he is also in charge of the government testing of materials elsewhere. It is he who prophesies that ten years hence Cleveland will be unburnable and all beautiful, at a saving of innumerable millions of dollars to its citizens—a city of concrete. Until that era Cleveland will be safe neither from fire nor disease. When that times comes it will be like a Grecian



AN EIGHT-ROOM CONCRETE HOUSE,
COSTING \$5 000.

Copyright, 1909, Waldon Fawcett.

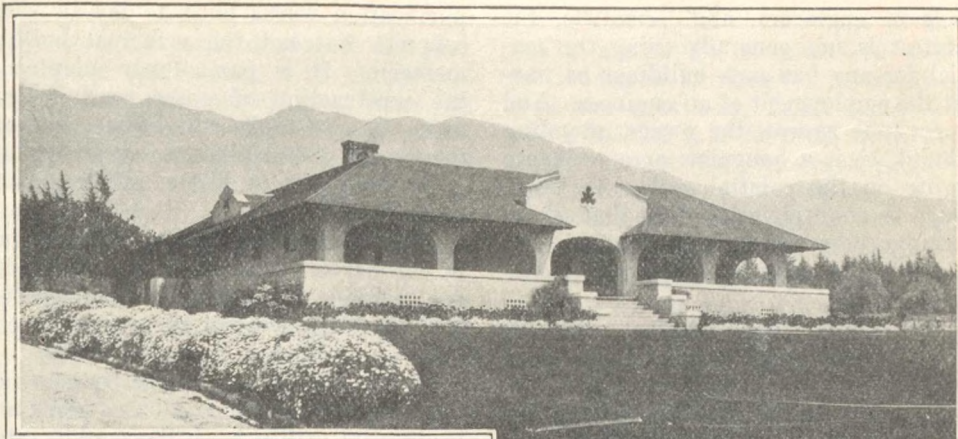
city of marble. "One will speed past it on trains running on cement beds. . . . Ten years from now Clevelanders will come downtown part of the way over concrete streets and part of the way in a clean concrete subway. They will walk on concrete stairs and sidewalks to their offices. Both office and house rent will be less, by reason of the smaller original investment and the reduced cost of upkeep. There will be practically no insurance to pay. Houses will last forever nearly. Rent will be less and taxes less by reason of the absence of the expensive fire department." The same Clevelanders are to ride on safe trains, out through a country beautified by concrete structures—"yes, even to the pigsties."



CONCRETE CHURCH, MAYWOOD, ILL.

Wherever the most up-to-date and extensive building is going on this latest structural material is being used. It is attracting the attention of anyone who is in any way interested in building—whether he be owner, architect, engineer or insurance company. The most alive insurance companies enthusiastically advocate reinforced concrete, and will write lower rates on buildings made of it than on almost any others. It has been used extensively at the Alaska-Yukon-Pacific Exposition, where its advantages as a decorative and structural material are on display. The buildings of the exposition have been planned for permanent use, but they had also to meet the requirements of the present occasion and be fireproof for all time. It was necessary to have a plastic material for the ornamental work and cement construction which would not only answer the requirements of the show place, but at the same time be appropriate for public buildings to be used later on for more serious purposes. Some of the roadways of the exposition are of concrete.

When properly made, concrete possesses all the qualities of the best natural quarried stone. It is "as permanent as the pyramids." It is now suggested that those great monuments on the Egyptian sands, so long thought to be of solid rock, brought there from great distances and piled up at the expense of millions of lives, may have been of concrete construction. It is asserted that the dome of



A NINE-ROOM CONCRETE HOUSE,
COSTING \$6,000.

Rome's Pantheon is unmistakably of concrete, constituting the most striking object lesson that is to be found on the permanency of this material. If the natural cement of those days, of irregular composition, could last so eternally, what may be done now when science, aided by highly generous manufacturers, have improved and almost perfected the composition of Portland cement?

Concrete is replacing stone and the increasingly expensive wood because it is cheaper and more flexible, and much more easily and conveniently handled and transported. In mixing the concrete large quantities of sand and gravel are used, and these are both inexpensive and accessible in most localities.

It is because of its extreme utility that cement has come into such extensive use. An enumeration of all the things it is being used for would make a very long catalogue. So universal has it become that even boats are made of it. There are certain engineering fields which are exclusively its own, and in the building industries reinforced concrete is in sharp competition with brick and steel. Buildings made of it are simple, solid, inexpensive, thoroughly fireproof, and may be made as artistic as the taste of the owner dictates.

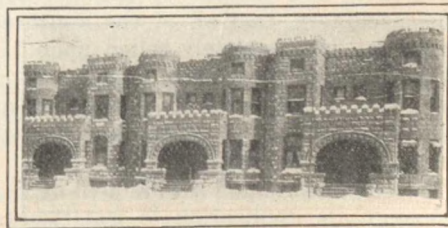
The use of cement is well established in works of general engineering. The engineer long since adopted it as offering greater economy than any competing material. He has for a good many years



Copyright, 1909, Waldon Fawcett.

been using it for foundations, dams and canals, abutments, sea and retaining walls, aqueducts and reservoirs. The federal engineers have perfected its use by increasingly strict requirements, so standardizing the manufactured product. For such great works as the Panama Canal and the Roosevelt Dam in Arizona the government has its own cement mills and manufactures all the material it uses.

The architect has been far behind the engineer in accepting this material. One of his profession, writing in a late journal of his art, says: "The relation of the architect and the general practitioner to new building materials is such a conservative one that at the present time, though building in concrete has reached an almost perfect development in the



APARTMENTS OF CONCRETE BLOCKS.

hands of engineers and scientists, the architect is not generally using the material for any but such buildings as warrant the employment of an engineer. And yet concrete assures the owner intending to build, be it a bungalow or a residence verging on the palatial, either in town, suburb or country, a building that, above all things, possesses the qualities that owners are to-day most insistent upon—fire-proofness."

After the Quebec disaster, with the failure of the steel columns, Professor Burr, the consulting engineer of the Panama Canal, publicly stated in writing that more was known about reinforced concrete as a structural material than about steel. And "the number of monumental concrete structures which are going up all over America to-day preclude any experiment on the part of a man selecting reinforced concrete for his new building."

The use of concrete is not an experiment, though no recent material has had so quick a development. To its use by skilled men, engineers, it owes its present progress and prestige. As one recent writer says: "Reinforced concrete is an established material of recognized merit. Its development has been rapid, but, like that of another great modern art, viz., the electrical industry, it has been from the laboratory and scientist to the practical man, and not haphazard practice first and investigation afterward." A writer in another journal says:

"The use of concrete as a universal building material is conceded by all who have studied its nature to be only a question of time and improvements on the present methods of handling. Cement has been so carefully studied, so extensively experimented and worked on by the best engineers of America, and all its processes of manufacture subjected to such careful supervision, and handled by the best possible machinery, that all of the approved brands can be completely relied upon."

Concrete has found the widest sort of usefulness in all sorts of operations on rivers and in waterworks. An English journal for June says:

"Concrete has found a wide field of usefulness in its application to waterworks, and it would be difficult to imagine a

purification works built to-day in which concrete was not the principal building material. It is particularly adapted to the construction of water conduits and pipe lines, to tanks and basins, to water towers and stand pipes, to reservoirs and clear wells and to filters, either slow or mechanical."

Piers, abutments, bridges and sea walls in our harbors have stood for years without showing any signs of disintegration. For foundation work the value of concrete is established beyond a doubt.

"It has proved a veritable boon to railway companies. For subway work and bridges its utility is as thoroughly established as in the case of foundations. Practically the only debatable ground involves the construction of tall buildings, and even on this point practical experience is the champion of concrete as opposed to untenable theory or prejudice."

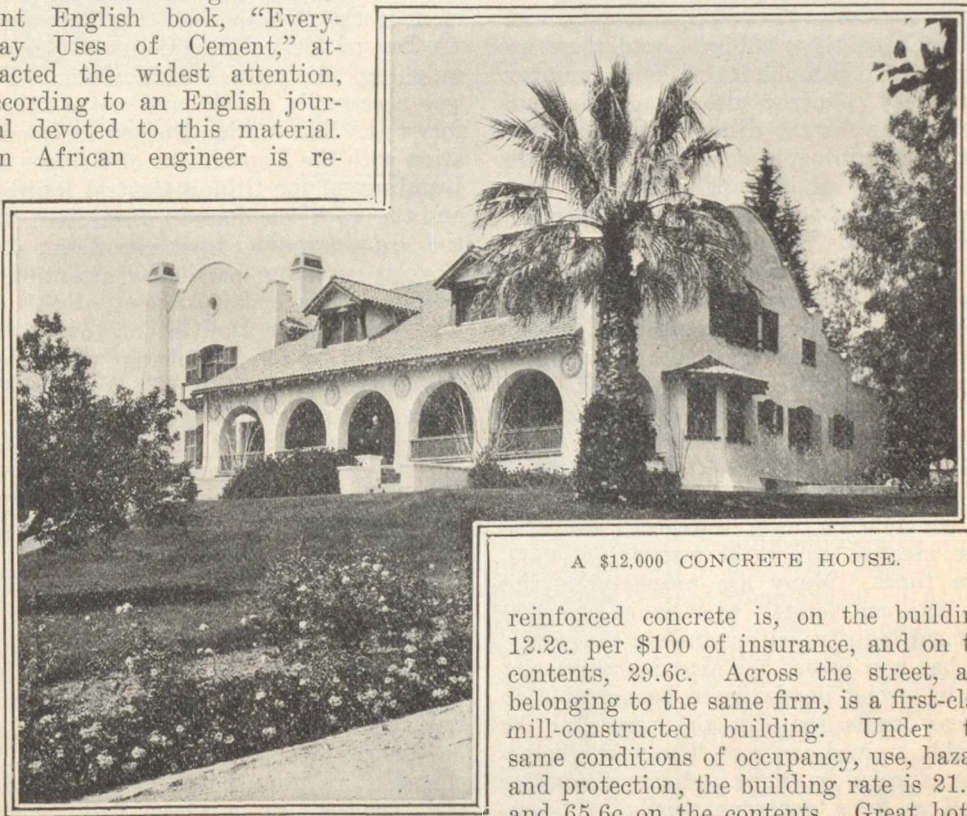
The foundations of massive proportions of the new twelve-story Chicago City Hall, as of many of the other buildings in the city, are being laid in concrete. It was necessary for the County Building, as well as for this, to provide circular concrete footings seated on bed rock at ninety-six to 120 feet below street grade. There are for the City Hall 124 of these, varying from four to ten feet in diameter. The footings for the heavy granite columns and walls are of the largest size. Elsewhere their size is according to what they will have to carry. They are spaced according to the arrangement of the columns in the building frame.

Of the wholly practical users of cement the railways are prominent. They are building stations, bridges, fences, signs, crossings and cattleguards, and even ties are being evolved. Thousands of concrete posts, telegraph and telephone poles are in practical use in all parts of the world, where they give entire satisfaction as durable and economical substitutes for wood. The cement manufacturers valued highly such a practical endorsement as was lately given concrete at the annual convention of the American Railway Engineering and Maintenance of Way Association, held in Chicago. These men gave unstinted praise to the concrete post which is particularly adapted to railway

use. "It is not easily displaced, and may be quickly constructed with cheap and portable machines and of cheap materials usually convenient to the place of manufacture." And these resist the action of fire and decay. This is a matter of interest not only to railway companies, but to thousands of farmers and other landholders.

Concrete is being largely used for piers and docks and grain elevators. Some of the railways are using immense concrete piers for their bridges. A recent English book, "Every-Day Uses of Cement," attracted the widest attention, according to an English journal devoted to this material. An African engineer is re-

The acceptance of reinforced concrete for industrial buildings is becoming general, and it is being urged nearly everywhere because it is fireproof in so high a degree, and, in low structures, proof even against the earthquake. Germany is using it for extensive buildings of this nature. An instance showing the difference in insurance rates on buildings of this sort and those of an older type of construction is given in a recent journal. The rate on a large paper factory in Brooklyn made of



A \$12,000 CONCRETE HOUSE.

reinforced concrete is, on the building, 12.2c. per \$100 of insurance, and on the contents, 29.6c. Across the street, and belonging to the same firm, is a first-class mill-constructed building. Under the same conditions of occupancy, use, hazard and protection, the building rate is 21.4c. and 65.6c on the contents. Great hotels are being built of reinforced concrete because it is highly desirable that these buildings be fireproof.

Concrete is not only fireproof, but it is highly sanitary. This material is now being used in the Chicago stockyards for cattle pens, fences and troughs. The abattoirs of Paris, in accordance with law, long ago had cement floors instead of sodden wood, such as aroused national and international repugnance in reference to Chicago's meat-packing establishments so recently. Porous brick pavements in the

ported to have said of it that it was of the greatest value to the farmer in that country, for "Not only does it enable him to turn his galvanized iron and wooden shanty into a handsome, substantial residence, but he can make his cattle sheds, stables, greenhouses, cattle troughs, tanks, fencing posts and clothes props entirely of concrete, using as a rule simply local materials with a small admixture of Portland cement."

Copyright, 1909, Waldon Fawcett.

cattle pens absorb much filth and wooden structures soon decay. Concrete is not only the cleanest but the most economical in the end. It is being used in certified milk barns, where floors, walls and animals are subjects of immaculate care. Cold storage warehouses are now being built of reinforced concrete, as in addition to its other excellencies for this purpose it has great advantages for insulation.

Perhaps no industry has ever been more generous and wide awake in its publicity methods than this one making Portland cement. Several of our large cities publish journals on these subjects, and there are books and pamphlets without number. European countries also have their journals. "As for the dissemination of literature pertaining to cement and concrete, no industry of like magnitude has been conducted upon such liberal and energetic lines."

The Association of American Portland Cement Manufacturers have spent thousands of dollars to procure and publish competitive plans for concrete houses. Over 200 architects from almost every large city in the United States responded. Besides this association the American Society of Civil Engineers and the American Society for Testing Materials believe in concrete and have faith in its future as the greatest structural material of modern times. Many are prophesying, but no one can foretell what magnitude the cement industry will assume in the future. It has now passed the experimental stage, is in strong hands, is to be operated in larger units than in the past and by highly trained experts. The public is being educated by shows and conventions, as well as by a generous supply of literature.

A fellowship, but recently announced, of \$1,500 a year for two years, has been offered by a Kansas City firm to some student in the industrial chemistry department of the University of Kansas. This student is to spend his time in the laboratory and in the various cement mills in the state of Kansas, hunting for more uses for Portland cement. The head of the department, Professor Duncan, is confident that this man will be able to find not a few new uses for it, and believes

that this is one of the most important and valuable scholarships that has been offered.

"In all the leading universities of the country, as well as state and government experiment stations, cement is receiving much consideration from both chemical and engineering standpoints. No other material has like prestige in this respect." The bulletins sent out by the engineering experiment station of the University of Illinois show what is being done in that state institution in reference to cement work. Numbers 28 and 29 concern "A Test of Three Large Concrete Beams," weighing thirty-three tons each. This was necessarily a field and not a laboratory test. The station worked in co-operation with the Department of Bridges and Buildings of the Illinois Central Railroad and the work was done in connection with the Grand Crossing track elevation. State work is receiving particular attention in reference to the development of this industry. Senator Dolliver of Iowa is accredited with the following prediction: "I believe that within the next twenty years the farm buildings of Iowa will be made exclusively out of the products of our stucco and Portland cement factories, and I think it especially important that these resources should be surveyed and that the state should interest itself in teaching the people to avail themselves of such resources."

The reinforcements for concrete are in a constant state of development—truss metal laths, bars, corners and mesh reinforcement—and their manufacture has become a great industry in itself. The chemical relation between these and a poor cement has not been fully worked out, but there is no reason why a poor cement should be used with them. There is no reason why any intelligent builder should not know what are the standard and reliable brands, or why he should not apply to reputable testers if he wishes to use an untried brand.

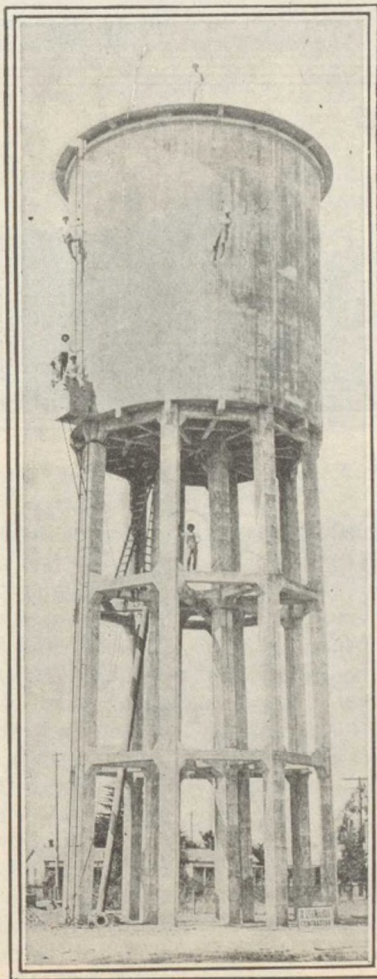
There is no class of construction which requires more skill and technical knowledge than reinforced concrete. Well done it is most desirable; ill done it is least desirable, if not actually dangerous. Concrete is either good or bad. If the cement



AN ARTISTIC CONCRETE HOME, IN CALIFORNIA. Photo, Copyright, 1909, Waldon Fawcett.

is what it ought to be the aggregates may be bad, dirty instead of clean sand may be used, or, what is likely to produce worse results, the slag from steel mills. It is because some ugly, discolored quickly cracking results have come from selecting and using these materials that many architects have held back, though the fact that their schools have not taught its use has been a deterrent. To-day the alert architect is all the more interested in it because it presents problems and because with fine handling it is capable of such endless possibilities.

The best cements are made of pure limestone and shale, but the great mountains of waste from the steel mills are now being utilized in their manufacture. Large quantities of limestone are used in smelting iron ores. The slag contains a large percentage of lime in an acceptable form for cement manufacture, but it also con-



CONCRETE WATER TOWER.

tains many impurities which are never entirely eliminated in the manufacturing process. The most deleterious of these are sulphur and magnesia. Both occur in small quantities in all limestone, but the smaller the better their presence in a cement. Sulphur is a highly brittle, unstable substance. It readily unites with other elements to form oxides, a common one of which, SO_2 , has a highly disagreeable odor, very offensive. The presence of sulphur in any but the smallest per cent in any cement is sure to result in stained surfaces and ultimately in cracks. Magnesia's first offense is that it is an inert material. In the setting of the cement this remains inactive. It is inert, but not unkinetic. It may not act for months or years, but when it does get to work the expansion that follows is disastrous. It, too, has a disagreeable odor. It would be use-

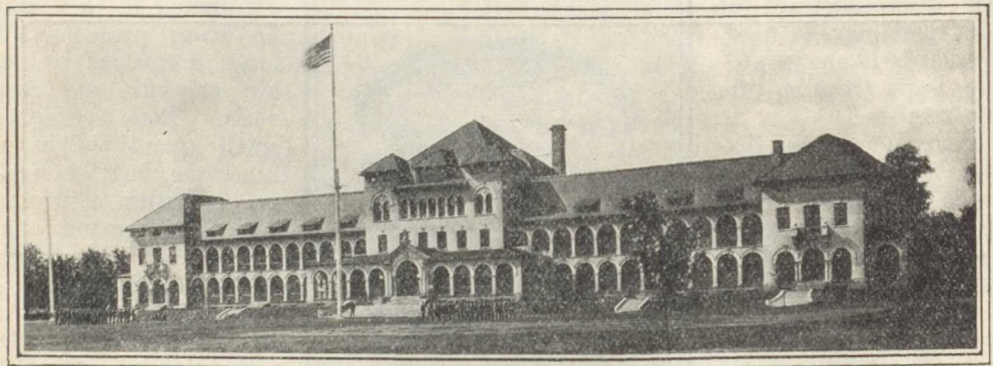
less to polish a cement in which it was present, for its surface would soon become dull because of that fact.

With growing competition improvements are constantly being made in cement manufacture and its machinery. That it is a reliable, durable and desirable material for great structural work some of the notable structures in the country attest. One of these is the Connecticut Avenue Bridge, in Washington—"the world's largest concrete bridge." This has attracted world wide attention among engineers and is regarded as a celebrated example of the utility of concrete. Its total length is 1,100 feet. At its highest point the bridge is 150 feet above the bed of the gorge.

If it were not for concrete the undertaking of building the Roosevelt Dam in

and escalators are made of it, as well as foundations and walls.

One of the curiosities in cement structure is a sailing vessel of concrete, a "stone boat." This is owned by a gentleman in Baltimore and has been in commission eleven years. It is a two-masted schooner yacht, sixty-five feet long, sixteen-foot beam, and draws fourteen feet of water. It has accommodations for a dozen persons and will carry all that can be loaded on her. "She is easy riding by reason of her weight, and, though she is of only moderate speed in a light wind, she outstrips everything in sight in a stiff breeze or a heavy sea." Says the owner: "I knew that concrete would be just as buoyant as steel, so I had a framework built of hundreds of light steel rods for reinforcement, exactly as such build-



MARINE BARRACKS, U. S. NAVAL ACADEMY. Photo, Copyright, 1907, Waldon Fawcett.

Arizona could not be carried through. This is the most notable of the irrigation projects undertaken by the government for carrying water to the arid lands of the West. It will form a storage basin holding sufficient water to flood 1,300,000 acres to the depth of one foot. For the great work being done in the remaking of the Mississippi cement is a necessity. Ohio is rebuilding her canals, constructed eighty years ago of stone and mortar, and now crumbling in decay. Cement has come to the rescue of such work and is far better than stone. "With this plastic, everlasting material, the state has set about the rehabilitation of its canals." Boston is using concrete in enormous quantities in its new subway. Stairways

are constructed. My 'stone boat' has been as far north as the Hudson Bay country, and she goes out to sea in winter without apprehension." Six years ago this boat was driven on the rocks off Cape Charles, and though a steel boat would have had a hole stove in her, this concrete boat did not show even a scratch.

But it is in the hands of the architect and designer that concrete has come to its perfect flowering. It is an absolutely perfect building material, easy to use, permanent and beautiful, though so new to the experience of most of the architectural profession. It has the advantage over stone of being readily molded into the most intricate forms. It is said that in America, at the present time, "the indus-



EAST HALL, CANTON CHRISTIAN COLLEGE, CANTON, CHINA.
(Reinforced Concrete.)

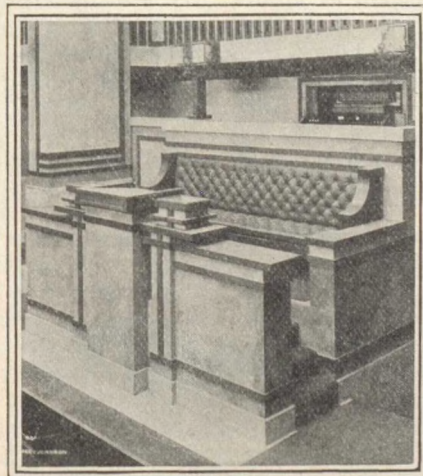
try of casting in materials of concrete the most beautiful and perfect ornaments has been so developed that often in buildings where stone is used this artificial stone is employed for the decorative portions. Therefore it seems highly advisable that cast stone of this kind should be used to a certain extent in enriching the exteriors and interiors of cement houses. A simple vase or frieze or isolated ornament, along the best of lines, might add considerably to the character and dignity of the small house. . . . Friezes or bands, reproductions of classic or beautiful Italian examples . . . show to what extent decoration may be had at small expense." It is because of the use of just these things that concrete residences have such æsthetic charm and even loveliness.

There are three modes of constructing

concrete houses, but the monolithic or solid one-piece building is the most interesting and the most in favor with the architect. It is especially adapted to original designs. Blocks can be laid by the mason, but it requires more expert knowledge to construct a monolithic building.

The pioneer concrete residence in America is in Port Chester, N. Y. It was built by the Honorable William L. Ward,

thirty-four years ago. It is a villa, and "every terrace, porch, bay window, corbeled balcony, cornice, mansard roof, chimney, dormer and machicolated tower is one solid piece of concrete to the last detail. If this house had been erected within the last few years it would have been advertised by promoters as a 'poured house.' It has floors resembling single sheets of rubbed sandstone, hard finished white walls, flat-



A CEMENT PULPIT.

paneled ceilings, molded and enriched. All the woodwork in the house is the necessary door and window finish. Yet "above the basement story there is hardly anything in the interior to remind one of concrete except the stairways and the kitchen fireplace. There is not a wooden furring strip in the whole house, for every foot of the plastering is laid on the solid concrete of the walls."

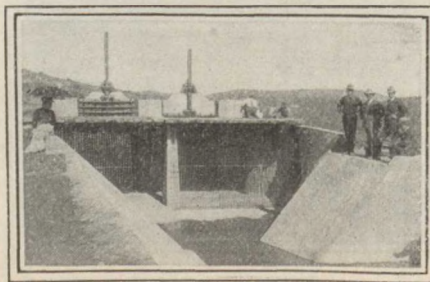
"In whatever fashion concrete has been used in house building, whether blocks, solid walls or stucco finish, it is more than holding its own." A very recent writer in one of the leading architectural magazines says that for fireproofed residences reinforced concrete probably has a greater future than any other method of building. "A few generations from now the majority of urban and suburban residents may well be living in concrete houses of one kind or another—without fear of fire or of vermin, and without paying for these substantial living accommodations any more than they are now paying for their more or less flimsy dwellings."

Architects have become interested in concrete construction because they can apply with success not only old and established designs, but original conceptions. One architect says: "The economic conditions which are making it possible and desirable to construct our country and suburban houses of unburnable materials are effecting a simplification in building construction which cannot fail to exert the most powerful appreciation of architecture." He thinks that the fact that people are building permanent homes will increase the sense of responsibility all along the line. The owner will feel this in several ways. The architect will try harder to turn out a thoroughly satisfactory plan and design, otherwise he will have little employment. Mistakes cannot be so easily rectified as in a frame house. He says that the American home builder and designer have never taken wooden structures seriously.

It would be possible to add to this account of what is being done in our country, fully as interesting facts about concrete construction in the South American republics, in New Zealand, in Africa, in the Philippines, in Italy, Russia and Mexico. Now we read of a concrete church being built in Los Angeles, Cal., now a cathedral in Poti, Russia. This latter has vaultings, pillars, dome and ornamented facade all of this material. Kingston, Jamaica, "sees the handwriting on a concrete wall." Her new government buildings are being constructed of reinforced concrete. Canada is also constructing handsome public buildings, richly ornamented, of concrete. Everywhere works of utility and beauty are being built of this twentieth century material.

It is only within the last thirty years that a very reliable cement has been produced, and, as we have seen, it is only within the past decade that the full possibilities of the product have been realized. In 1893 there were about 300,000 barrels of cement manufactured in the United States. Last year 50,000,000 barrels were made. It is almost impossible to imagine what the output will be ten years hence, with lumber decreasing in quantity and increasing in price; with the increasing demand for fireproof buildings; with nearly every state investigating its cement resources and with the government erecting its own great plants. Such national importance has the industry already assumed that it has received exhaustive attention from the United States Geological Survey through its technological branch. In the extended report made by that survey in 1907 the author says: "In its importance to our present civilization cement is surpassed among mineral products only by iron, coal and

oil; in rate of increase of annual production during the past decade even these three products cannot be compared with it." Is it hyperbole to call this the Cement Age?



CANAL OF CEMENT.

Illustrations used by courtesy of The Cement World.

EILEEN

By LEN FIELD.



THE Raymonds were just an ordinary family of the middle class—no greater, no less. The father, a hard-working business man; the mother, equally hard-working in her own way at home; the sons, prosaic, practical, every-day young men; and the elder daughter, a strong, self-assertive young woman, with no ideas beyond her business, dress, young men and amusement.

The younger girl, Eileen, had just left school, and at the present time was rather a problem to her parents and relatives generally. She was now in her nineteenth year, and, to her parents' dismay, showed no special ability for anything. At school the girl had been slow and backward, necessitating a longer term there than the majority of girls seemed to require; at home, she was dreamy and absent-minded, nervous and easily depressed by criticism.

"Well, now, wife," said Mr. Raymond testily one evening, when they were alone together, "what on earth is to be done with Eileen? It's quite time she was earning her living, but she seems to have no capacity for business of any kind."

"She isn't very strong, physically, either," said the mother. "I'm afraid she will never be good for much!"

"And her brothers and sisters doing so well!" continued Mr. Raymond. "But Eileen must exert herself! I cannot afford to keep her at home all the time—and shall make arrangements for her to start in at a business college this very week."

Mr. Raymond was always as good as his word—and in a few days Eileen found herself struggling with the intricacies of shorthand and bookkeeping, in conjunc-

tion with a number of bright young men and women.

The girl did her best—that had always been one of her chief characteristics, though she received little credit for it; but the work was distasteful and uninteresting to her, and even when she did grasp the principles sufficiently to apply them correctly, she was continually hampered through lack of speed—which never seemed to increase, however much she practiced.

"My fingers *will* not move!" she would cry pathetically.

This fact Mr. Raymond soon discovered, and immediately put it down to stupidity and laziness. But his sarcasms and bitter words brought on an attack of hysteria, and the highly strung, sensitive girl became more discouraged than ever.

"I don't seem to belong to this family at all!" she said to her mother. "The others are all so clever and capable, and I can't do anything. Why is it? Oh, why is it?" But Mrs. Raymond was quite unable to explain this mystery, and could only advise her perplexed child to apply herself more diligently to her studies.

Eileen had not been taught to find consolation for the trials of life in religion, though her family was quite orthodox in its views and attended church regularly. Indeed, to tell the truth, this girl hated going to church—the whole service bored her extremely. There seemed to be no life, no soul in it—and it roused all the contempt of which her gentle nature was capable, to hear the clergyman spend at least one-third of the time that should have been devoted to his sermon in making strenuous appeals on

behalf of the financial interests of the church.

"Funny Christianity!" she thought to herself. "They are always preaching about Faith, and then act as if there was no such thing in the world!"

Mrs. Raymond had two elder sisters living in the same town—good, Christian churchwomen, both of them. So long as people conformed outwardly to the ordinances of the church, their superficial souls were quite satisfied—and they had no fault to find with their sister's family in this respect, until the unfortunate Eileen began to give utterance to opinions of her own with regard to church services and the practice of modern Christianity in general.

Their antagonism was at once aroused, and the daring niece subjected to many a "religious" lecture and scolding; but the misguided one would not be convinced, and longed more than ever to get away from her hated surroundings. Eventually she screwed up sufficient courage to ask one of her teachers at the high school if she knew of any position within her capacity, and that would take her away from home.

Miss Brodie had always taken an interest in her gentle, refined pupil, and now gladly made an effort on her behalf, with the result that in a few weeks, she was able to offer Eileen a small post in a country high school.

Mr. and Mrs. Raymond made no objection; indeed, they were only too thankful that their problem had been so easily solved for them. And the relief and joy of Eileen's heart were unspeakable, and

overcame, for the time being, the natural distrust in her own powers, that fatal lack of self-confidence that had so hampered all her previous efforts—the result of her parents' ignorant and injudicious training.

Eileen gradually learnt, as time went on, and experiences came thick and fast about her, that change of environment alone, although beneficial in many ways, and often of great help towards self-adjustment, does not go to the root of the matter, and that to place all one's faith in environment was like treating the symptoms and not the cause of the dis-

ease—but many a weary year was yet to pass before the mystified girl discovered that it is "within ourselves deliverance must be sought" and that "Each man his prison makes."

Apart from the inevitable trials and difficulties which her pupils, which Eileen's sensitive and rather morbid temperament would magnify unduly, she was oppressed with a constant sense of mental and physical inferiority

in comparison with the other teachers, and judged according to her limited standpoint, she certainly was inferior. As a matter of fact, none of the other young women possessed, as yet, the depth of character, the aspiration and high ideals, the so-called dreams for which she had been so often taken to task; but, on the other hand, they showed abundance of self-confidence and self-assertion, and moreover, were physically well developed and strong—a very great advantage.

And so, when the novelty of the change wore off somewhat, the difficulties of her position appeared greater, and oppressed



EILEEN HAD JUST LEFT SCHOOL.

Eileen's spirit more and more heavily. Her health gradually gave way under the strain, and she was forced finally to give up her work and return home—a failure in the eyes of all.

A mother's love and sympathy at this time would have been the greatest balm to the wounded, despairing soul, but Mrs. Raymond was a cold, reserved woman, who did her duty to the best of her ability and light, and soared no higher. And Eileen was reserved, too, in her way, though longing passionately to love and be loved.

Mr. Jack Leslie, the elder of the two men, was an energetic and restless soul—the very antithesis of the other, Mr. Sweet, who often truly described his partner as “an elegant hustler!” He, Leslie, brooked neither interference nor obstacles of any kind in his path, and acted invariably on the principle of “all's fair in love and business.”

“That's BUSINESS!” he would say patronizingly, when his young stenographer looked puzzled over certain transactions. And Eileen could only conclude that this was another of the ironies and



ONE DAY HE ASKED HER TO BE HIS WIFE.

As she became stronger, Mr. Raymond insisted upon her practicing daily her old occupation of bookkeeping and shorthand, and, later on, found her an easy position in the office of some brokers.

These were two young men just starting in business on their own account, and the stenographic work was therefore not very heavy at the time. They were kind and considerate, too, in their way, and Eileen gradually overcame her timidity, and began to take an interest in them and the business.

inconsistencies of life, and with a sigh over the iron hand of fate, shut down within her all dreams of a loftier morality among mankind.

But Mr. Leslie was certainly very considerate in many ways, and gradually became more and more so. Eileen, on her part, felt grateful—no one had ever before troubled to consider her wishes and seek to gratify them, and although she saw nothing else in him to command either her respect or admiration, yet so great became the magnetic influence of

his personality, that before she was fully aware what had happened, she found herself accepting his attentions as a matter of course. And, when, one day, he asked her to be his wife, Eileen, for the moment, thought the day of emancipation had arrived, and accepted his offer gladly.

The news of the engagement came as a great shock to the whole family—it took them some little time to recover and adjust themselves to this new view of Eileen—and the amazement and indignation of the elder sister was irresistibly comic!

Jack Leslie proved as ardent in love as in business, and Eileen, who had never dreamt of such devotion falling to her lot, repaid him with passionate love and gratitude; and neither of the young people gave a moment's thought as to whether they were really suited to each other in character, temperament or tastes, or whether their love had any sure and firm basis at all.

Fortunately, Mr. Leslie was not in a position to marry for some time to come, and Eileen, as the months sped away, had plenty of time to think, and in spite of the strong fascination of his personality, she gradually woke up to the fact that they had been building an air-castle together, that there was no real foundation for their love—there was nothing to guarantee their future happiness.

By this time, she had learned to manage her share of the business without much difficulty, but the work did not appeal either to her mind or heart. She felt intellectually starved and this deficiency could not be remedied or supplied in her spare time, for Jack monopolized the greater part of that now; and yet, had it not been for this friend that had suddenly come into her life and brightened it so wonderfully, the daily routine would have been exceedingly irksome to her.

Eileen had artlessly spoken once to her lover of some of her cherished ideals of life, and his look of amazement and utter want of comprehension scared her into silence and a deeper reserve than ever upon those sacred topics.

"My dear girl!" Jack had exclaimed, "you are way off in dreams! People will think you are crazy if you talk like that. Come, be sensible!" And then he had plunged into an animated description of the present state of affairs in Wall street, not noticing her unusual abstraction.

That little incident brought home to Eileen more forcibly than ever the utter incompatibility of their union, and once that young woman convinced herself that a certain course of action was right, nothing and no one could dissuade her from it. At length she gathered sufficient courage to speak to Leslie on the subject. Needless to say, the man exhausted every argument he could think of to prove that she was "way off in dreams again" and utterly wrong in all her reasoning; but it availed nothing, and the engagement was broken off.

No one but Eileen herself ever knew what that step cost her, what she had sacrificed for the sake of principle. It involved, too, the giving up of the only position she had been able to hold, so far—it meant return to an uncongenial home and unsympathetic relatives—it meant another physical breakdown for her.

Eileen's emotional nature was not a well-balanced one; she had given herself up wholly and unreservedly, with all the intensity of her being, to that infatuation, and the reaction taxed her strength and nervous system to the uttermost.

So, for the second time, Eileen came back to the parental home, broken in health and more despairing than ever.

How often during the long, tiresome illness that followed was the lonely girl tempted to call Jack Leslie to her again. He was the only being in all the world who had been good and kind, and it seemed to her in that dark time that she had given him up so easily—and for what? God alone knew! The expression came into her mind mechanically; she was not in the habit of thinking much about God; but now there was nothing and no one else to turn to; why not try at least and see if there really was anything in prayer after all?

And so Eileen prayed—for the first time in her life!

II.

The long winter was over—springtime had arrived—and one bright Sunday afternoon, Eileen went forth for one of her solitary rambles. Absorbed in thought, she hardly noticed where she wandered, and at length, somewhat to her surprise and dismay, found herself in one of the poorer parts of the town, and in front of untidy-looking building, from which issued a sound of singing. Partly out of curiosity and partly from physical weariness, Eileen entered, and seated herself among what her father would have termed a "queer crowd"—a mixture of the poorer white class and colored people.

The singing ceased as the girl quietly took her place, and then a man rose up from the congregation, and began a long, rambling, whining prayer, which was interrupted every now and then (at the end of each paragraph, as it were) by the minister. The latter, who knelt in the aisle with clasped hands, fascinated Eileen. He was

very plain and coarse looking, but his face fairly shone with a wonderful faith in the power and will of God to right all wrongs, and this faith and conviction was heard in every tone of his melodious voice. He rocked himself to and fro on his knee, during the prayer, exclaiming fervently from time to time:

"Do it, O Lord, do it!"

"Fix him up, O Lord! Fix him up!"

"Amen, Amen, Amen!"

And presently the sad-hearted Eileen actually found herself smiling—the first time for many a day!

Then came the sermon—a plain and

blunt statement of the faults most sinners have in common, more or less, and special emphasis was laid upon the cowardly habit of running away from trouble. The minister warned his hearers that they would be brought up against that particular difficulty of theirs again and again, until they had learnt to meet it face to face and overcome it. It was no use whatever running off, or praying for certain conditions to be removed from them. No, but to stay in the very midst of and conquer it all was the only way to do.

Eileen pondered these words that had

thus come, apparently by chance, in her way; she felt their truth and applied them to her own life and conduct. Hitherto, her one idea had been to get away as soon as possible from every unpleasant condition, through change of environment; she had never thought it possible that such conditions could be surmounted or changed by any effort on her part. But how was it to be accom-

plished? By passive and patient endurance? She shuddered at the thought—if that was the only way, it was beyond her power altogether.

A few days later, Eileen was seated in a car, on her way out to the park. Nature had always charms for this girl, and wonderful ways of restoring harmony to the jangled and tired nerves, and so, whenever things came to a climax at home, Eileen would make her escape and take refuge in the beautiful park.

Seated directly opposite her in the car was a man, whose face seemed familiar; he was deeply immersed in a magazine,



"WHATEVER HAS COME OVER EILEEN?"

and Eileen, looking at him attentively, recognized the minister she had heard preach the previous Sunday.

The conductor presently called out the name of a street, and the minister, jumping up in great haste, for he had gone beyond his destination, dropped the magazine, in his hurry, in Eileen's lap, and scrambled off the car before she could attract his attention.

She carried the journal to the park, and there, luxuriating in her favorite nook, she presently opened it and glanced over the list of contents. An article entitled "The Transmutation of Our Forces" attracted her notice, and wondering curiously what that could mean, she turned to the page indicated and began to read.

The whole of that day, the girl pondered and studied the new ideas contained in that article. Could they really be true and practical? Why, if so, then there was hope for her—even her—after all—and health and happiness, power and ability, all might be hers some day.

Some old, familiar but hitherto meaningless words occurred to her mind—"The Kingdom of Heaven is within you"—and surely the truth of those words could now be proved by the transmutation of one's own interior forces. That was the secret—that the only way! How blind and ignorant had she been all these years! What an amount of precious time had been wasted in useless regrets, and complaints, and rebellions!

But now, henceforth, she would "whimper no more, postpone no more!" She would begin that very moment to conserve all her mental and physical forces, and train and direct them into higher and more profitable channels.

Fortunately, Eileen was possessed of an unusual amount of perseverance, otherwise her heart might have failed her again and again in the forthcoming struggle. Old habits of thought are not easily broken, and many a failure did the girl weep over bitterly in secret. But thanks to that magazine, which Eileen now obtained regularly, and its sublime words of encouragement, she came safely through every difficulty.

By degrees—*very* slow degrees, it seemed to her sometimes—she succeeded

in transmitting all feeling, emotion and desire into one harmonious whole. Depression was gradually cast off for cheerfulness; impatience for patience; fear for courage; worry for serenity; hate for love. And as she grew mentally brighter and freer, she found to her joy that her physical body was keeping pace with the mentality, and health had come unawares. Eileen Raymond, the nervous wreck, the incapable, eventually bloomed forth like the rose, "radiant, rejoicing" and strong to dare and do!

"Whatever has come over Eileen?" Mr. Raymond would remark every now and then to his wife. "I never saw such a change in anyone! How do you account for it, Kate?"

All the relatives were equally amazed, and quite at a loss to account for these wonderful changes, for Eileen was too reserved and diffident to speak to anyone of what she was doing. If any other members of the family had been in trouble or difficulty, Eileen would have been the first to share her good things with them; but they were all quite content with themselves and with things as they were, and the wise girl would not "cast her pearls away." She would abide her time—and some day, perhaps, an opportunity might come, when she could pour forth lavishly of the good gifts that had so blessed her own life.

Soon Eileen was capable of filling a highly remunerative and congenial position in a neighborhood town—and the magnetic charm of her now positive personality, combined with her superiority of character, won for her many true and congenial friends. And among them, she found one in perfect sympathy with all her ideals and aims, and later on, she joined her life to his, in full assurance that for them marriage could be no failure, but ever a greater and greater expression, as the years went on, of unselfish joy and service.

"Well, well, well!" remarked Mr. Raymond to his ever faithful confidante, on receiving the news of Eileen's second engagement. "That girl of ours, Kate, is a perfect mystery to me—always has been—but she has turned out a 'swan' all right, anyway!"

THE HAPPINESS CURE.

By CHRISTIAN D. LARSON.

HEALTH is harmony. Disease is discord. The more perfect the harmony in the human system, the better the health; and happiness invariably produces harmony. When the forces and elements of mind and body work together in harmony, wholesome conditions are naturally produced; and if the creation of wholesome conditions is continued for any reasonable length of time, all disease will finally disappear. There can be no discord when the harmony is full and complete; there can be no darkness when the light is sufficiently strong.

The happier you are the less energy you waste, because added happiness means added harmony, and the system wastes no energy while it continues in perfect harmony. The less energy you waste, the more vitality you will possess, and the greater your supply of vital energy, the less liable you are to sickness. When your system is absolutely full of vital energy, you will contract no disease whatever, not even diseases that are said to be contagious. Retain all your energy and you will never be sick; but to this end harmony must be perfect, and perfect harmony is possible only when happiness is continuous.

When the human system is thoroughly harmonious, every particle of food that is taken will contribute its full nourishing power, and to properly nourish the system is one of the chief secrets of health. In the average system, however, a great deal of the food taken is not digested, there being too much discord among the digestive forces, and, therefore, actual starvation obtains in the midst of plenty. There are millions of cells in the majority of human bodies that are daily starved to death, regardless of the fact that three square meals are eaten every day. These starved cells wither up and

become waste matter, clogging the system, thus giving extra work to the forces of elimination and reconstruction. And the more energy you use up in getting rid of useless matter, the less energy you will have for your work, your life and your thought.

A fit of anger, or prolonged excitement, is frequently followed by a cold; and the reason is that agitation, in every form, tends to prevent proper digestion and assimilation. Most of the food that is taken at the time, or that has been taken within the last eight hours, will simply become waste matter; and all the starved cells will, in like manner, become waste matter; the system is thus clogged from two sources, and what we call a cold must naturally follow. The system, however, would have been clean and well and properly nourished through and through if there had been no anger or excitement, but harmony and happiness instead.

There would be but few cases of indigestion if happiness and harmony were continuous in every mind; and when you prevent all the ills that come directly or indirectly from imperfect digestion, you prevent fully three-fourths of all the ills known to human life. But the powers of happiness and harmony do not end with the digestive functions; their effect upon the nervous system is just as far-reaching and beneficial. Make continuous happiness a part of your life, and your nerves will be as good as new as long as you live. The same is true concerning the mind. Nourish your mind with happiness as you nourish your body with food, and the ills of mind will never gain a foothold in your life for a moment. You will be mentally vigorous and strong every day, even though you should live as long upon earth as those worthy examples of ancient days.

The forces of growth, recuperation and reconstruction are all given a healthy stimulus by happiness. No matter how tired out the system may be, it will recuperate in a very short time, if you are thoroughly happy; but this the average person fails to do. When he feels tired he permits himself also to feel downcast, weary and depressed; and, therefore, instead of helping nature to restore normal conditions, he places every possible obstacle in her way. When your horse is wearied by one load, you do not expect to give him a rest by having him hitched to a heavier load. And this is the very thing the average man does to his own personality. When his body is tired from physical burdens, he gives it a mental burden instead, and is blind enough to think that he is giving his body a rest. Mental burdens exhaust more vital energy than the hardest kind of physical work; and mental burdens are always useless; but they can be removed completely by the power of happiness.

But there is happiness and happiness; there is the genuine and the counterfeit; the former produces harmony, health and virility; the latter produces weakness, depression and hysterics. When you are bubbling over with joy, and feel like shouting, you are not happy; you are mentally intoxicated; and intoxication, whatever its nature, is an enemy to health. True happiness is calm, deeply felt, composed and contented. It is not merely intellectual, nor is it lacking in feeling; it is not necessary for the mind to run riot in order that it may feel deeply, or express the full warmth of tenderness and emotion. Those emotions that are deeply felt and calmly serene are always the most tender; they are what may be termed the full emotions, because they express all that is tender in body, mind and soul; and they therefore give the highest and most satisfying form of joy. True happiness enjoys all things deeply, but serenely; and you can always know when you have such happiness because it makes your countenance radiate with a restful sweetness.

To gain real happiness the first essential is to train yourself to think constantly of the great value of such happi-

ness, and especially with regard to its health-producing power. Such thinking will tend to produce a subconscious desire for happiness, and what the subconscious begins to desire it also begins to create. Train yourself to think of happiness as a mental necessity, just as food is a physical necessity, and you will gradually train every element and force in your system to work for the creation of happiness. By creating within yourself a constant demand for happiness, you will inspire the elements of your own nature to produce the desired supply, and ere long the happiness you desire will become a permanent part of your life.

Every moment of joy that comes to you should be entered into with a deep, contented calmness. Do not permit your happy moments to bubble over on the surface, and do not permit yourself to be wrought up when occasions for great joy come into your life. Make it a point to turn your attention to the richer depths of every joy that you feel, and your enjoyments of all things will not only multiply many times, but the effect of your joy will be most beneficial both to mind and body. Gradually your happiness will give you that calmly sweet contentment that makes the whole universe look good. And so long as you dwell in the mansion of that form of contentment, sickness can never enter your door.

Learn to look upon life as a privilege instead of a hardship. View all things, not from the valley of discontent and limitation, but from the mountain top of all that is rich and great and marvelous in the sublimated nature of man. Learn to think that everything must come out better and better if you only do your best; then proceed to do your best. Have no fear of results so long as you do your best; and believe firmly that whatever comes to him who always does his best must of necessity be good. If it does not appear to be good, it is only temporarily disguised, and will soon reveal itself to be the greatest blessing that could have been desired. No person can be unhappy who lives in this thought; and he who lives constantly in this thought will not only become happier, and thus healthier, but he will also dis-

cover that things always turn out better and better when we do our best.

Do not think that it is necessary to carry such a weight of responsibility. The universe is held in position by the law of gravitation; do not wear yourself out trying to hold it up. Do not think that the human race will be saved through your anxiety, and do not think that your own welfare or success in life will depend upon how much you worry. Do your best, and leave results to the laws of life; do not worry for a minute, and do not be anxious about anything; do your best in the present and everything will be better for you in the future; this is the truth; then train yourself to deeply realize that it is the truth, and you will always be happy.

Do your part in the world as well as you possibly can, and let nature carry the responsibility; she is not only able, but most willing; in fact, that is what she is here for. You are not required to carry anything on your mind, and you are not called upon to be anxious about results in a single field of action anywhere in the universe; you are just called upon to do your best *now*; but to do your best you must be happy. It is easy, however, to be happy when you know that everything will be better so long as you do your best.

Make it a point to be happy just as you make it a point to be clean, to be presentable, to be properly dressed, to work well, to be efficient, to be worth while, to be true to all that is in you. In brief, make the attainment of continuous happiness and greater happiness a permanent part of your strongest ambition. You will soon find results. Your unhappy moments will become less and less frequent, as well as less and less significant, while your happy moments will become so numerous as to almost become one continuous moment, and the richness of your joy will increase daily to a most satisfying degree.

Avoid all unwholesome mental states, such as fear, anger, worry, depression, disappointment, discouragement, gloom, sulkiness, moroseness, pessimism, sadness, harshness, resentment, remorse, anxiety, and states of a similar nature. Find

fault with no one, condemn no one, antagonize no one; but first, refuse to be anxious. Anxiety saps more life and energy in a day than work does in a week; we all know this; and as anxiety cannot possibly be of any use at any time, we are not justified in being anxious for a single minute. To remove anxiety, however, we must view life, not in the old way, but in the new way. That is, we must learn to know that all things contain possibilities for greater and better things, and that we have the power to bring out those greater possibilities at any time and under any circumstances. When we begin to preach and practice the gospel of strength instead of the gospel of weakness, we shall not be anxious any more.

To be happy constantly in this deep, calmly contented manner, is to steadily increase the power of harmony in your system; and the more harmony there is in your system the more energy, the more vitality and the more wholesome conditions there will be in your system. Finally, the power of the wholesome will become so strong and so completely established in every nerve and cell and atom that all disease, if there was any, will have to leave. And if you wish to hasten this great day of freedom, you can do so through a very simple exercise.

Whenever you feel this deep, calm contentment, turn your attention upon those organs or parts in your body that require better health. Try to impress upon those organs the same deep, serene happiness that you feel, and you thus produce in those organs a greater degree of harmony. Repeat the exercise as frequently as you can. Try to *feel* happy in that organ that needs health and strength. Where you feel real happiness you produce harmony; and when you give nature perfect harmony she can restore perfect health every time, no matter what the ailment may be. A little practice will convince you that the healing power of happiness is very great, indeed; and it becomes doubly so when combined with temperance. We should therefore write the rule of life in this fashion:

*Be temperate in all things.
Be happy at all times.*

CHARACTER

By WILLIAM WALKER ATKINSON.

DO you know what *character* is? I doubt it very much. The average person thinks of "character" as something concerning "goody-goodness" in demeanor, thought and action—this because from childhood he has heard overmuch about developing the *character* along certain approved lines. The boy has pointed out to him some person—a "character"—after whom he is instructed to model. It too often happens that this "character" is not calculated to inspire a boy with the proper feeling—not calculated to arouse in him the feelings of endeavor, energy or ambition. Too often the "character" is a pink-tea sort of individual, who, while filling a very useful place in the Browning Circle, is, nevertheless, lacking in the qualities which to the boy seem necessary for attainment and realization in the great Game of Life. Speaking for myself, at least, I know that for many years the very word "character" seemed suspiciously allied to conceptions akin to "Little Rollo" and the "good little boy who died young" of whom I read much in the little volumes so kindly handed me by the librarian of the Sunday school at which I was a steady attendant, and from whom I steadily garnered a goody supply of little tickets, pink, blue and green, testifying to regular attendance, perfect lessons, and general interest, respectively. I suppose that it was very unreasonable and illogical, all of this mixing up of ideas in my youthful mind, but candor compels me to testify to the fact that, for many years after, the word "character" was closely linked in my mind with pictures of priggishness, "goody-goodness" and general "tea and cracker" ideals, all of which are quite repugnant to the mind of the normal, healthy young animal whom we call "just boy."

But character means more than this. The character of a person is what we

often speak of as his "*nature*," by which we mean his qualities, traits, temperament, disposition, personal peculiarities, etc. Every individual has a character differing in some respects or degree from the characters of other persons. There are no two characters exactly alike, any more than there are two blades of grass exactly alike. Nature never makes any two things alike. Character is the collection of mental states which give to the individual that which we call his *personality*—that indefinable something which constitutes him different from other people.

Character is of two kinds, inherited and acquired. A considerable portion of our character is the result of the inheritance of the ages—traits, tendencies and inclinations which have come down to us through the channel of the race evolution. Heredity does not shape our character in detail; as so many seem to think it does—it merely tends to give us a bent or tendency in certain directions in preference to others, which tendency may be overcome by desire and will. Far more important is the character acquired by environment or self-training. Of the character acquired in these ways, that which is impressed upon us by the suggestion of environment, imitation and association is by far the most common. Every person's character is composed chiefly of these impressions. Very few have reached the stage in which they can *make character* for themselves.

It is startling when one first learns the extent of the influence of environment and outside suggestions upon the character which he calls "myself." The character is plastic and soft, particularly in youth, and readily takes the impression of the outside world. It may surprise you to learn that the very word "character" originally meant "a sign or engraved mark;" the Greek word from which it was

derived being *charrasso*, meaning "to engrave." And the meaning of the word is still true to its origin, for psychology informs us that one's character is formed from the impressions made upon its plastic material.

Babbage has written: "Every atom impressed with good or evil retains at once the motions which philosophers and sages have imparted to it, mixed and combined in ten thousand ways with all that is worthless and base; the air itself is one vast library, on whose pages are written forever all that man has ever said or whispered. There, in their immutable but unerring characters, mixed with the earliest as well as the latest sighs of mortality, stand forever recorded vows unredeemed, promises unfulfilled; perpetuating, in the united movements of each particle, the testimony of man's changeful will. But if the air we breathe is the never-failing historian of the sentiments we have uttered, earth, air and ocean are, in like manner, the eternal witnesses of the acts we have done; the same principle of action and reaction applies to them. No motion impressed by natural causes, or by human agency, is ever obliterated. . . If the Almighty stamped on the brow of the first murderer the indelible and visible mark of his guilt, He has also established laws by which every succeeding criminal is not less irrevocably chained to the testimony of his crime; for every atom of his mortal frame, through whatever changes its several particles may migrate, will still retain adhering to it, through every combination, some movement derived from that very muscular effort by which the crime itself was perpetrated."

Smiles, quoting the above passage, adds: "Thus, every act we do or word we hear carries with it an influence which extends over, and gives a color, not only to the whole of our future life, but makes itself felt upon the whole frame of society." And he might well have added that the influences of the outside world are constantly making impresses upon our own character. The majority of persons' characters are almost entirely made up from the miscellaneous impressions from the outside world which have been al-

lowed to reach the plastic character material. The average person's character is simply a composite of outside impressions, added to the original mass of impressions acquired through heredity. The *voluntary* inhibition or creation of such impressions is almost unknown to the majority of persons.

The New Psychology is doing a great and wonderful work in instructing the individual that he *himself* is to a great extent the master of his character. By its instruction on the subject of suggestion it gives to the individual a knowledge of its effect upon his plastic character, so that he may guard against the adverse use of it against his well-being. And by its teaching regarding the nature and use of Auto-Suggestion, it gives to the individual the methods whereby he may consciously and voluntarily mould his character material according to his reason and his will.

The man who masters the teaching of the New Psychology loosens forever the bonds of environment which have bound the race for so many centuries, and enables him to throw them aside and step out into the free air of the universe, a master instead of a slave. When man learns that by directing his will upon his mind, according to scientific methods, he may actually *make himself over*, and that he may in the future continue the work of character building according to his reason and will, he becomes another class of being from the chained slave of habit and environment that was his former self.

The New Psychology teaches a man that he is that wonderful something known as an Ego—a center of life and consciousness and will in the great ocean of life, consciousness and will. It teaches him that his character is not a fixed and unalterable thing identical with his *self*. It teaches him that his *real self* is his Ego, which is superior to the mental and physical characteristics which he has confused with his real self, and that he may change, alter, govern, master, yea, even *create* these characteristics. The New Psychology teaches the distinction between the "I" and the "Me" of the individual. It teaches that the "Me" is the collection of personal likes and dislikes;

inclinations and prejudices; feelings and emotions; habits and results of habits; desires and fears—in short, the mental paraphernalia which he has inherited or acquired, and which he has been considering as identical with himself. It teaches him that his "I," his Real Self, is not dependent in any way upon this collection of "Me" things for its being and reality; that, on the contrary, these mental states may be discarded, changed, replaced or created by the will, which is the direct instrument of the "I." It teaches man that the "I" is the master of the self, and the "Me" is, or should be, obedient to the orders of the master of the mind.

It is impossible to describe to one who has not experienced it the sense of freedom that comes to him who has learned this great lesson of the New Psychology—who has learned the Road to Himself. There comes to such a one a new-found sense of reality, strength and power, that makes him seem as a new being. No longer a thrall of emotion, feeling or impressions from the outside, he creates a

new kingdom of self within Self—a kingdom in which he is the Master and Monarch.

When one who has found this new knowledge looks around him and sees the world of people under the bondage of ignorance regarding their own inner power and strength—slaves of their own mental mechanism—one is filled with a sense of the greatness of the new race which is slowly but surely arising as the result of the teachings of the New Psychology regarding the Real Nature of Man. When man realizes that *character* is a something which he *may make for himself*, instead of a something given him for once and all, for better or for worse, then, and then only, is he able to realize the glorious possibilities of Manhood—then, and then only, is he able to say, with true and full understanding, "I am a Man!" This consciousness of the Ego and its powers is a gift reserved for man—and when he has fully learned it, he has become the Superman!

ENTERTAIN no desire that does not aspire to greater things; think no thought that does not contain the spirit of growth; permit no imagination that does not picture the higher and the better in life and work for no purpose that has not the upward and the onward as its constant goal in view.

WHEN you have personal and mental worth, the world will want you; you will be in constant demand everywhere. When your service has worth, you will have more opportunities for profitable usefulness than you can possibly take advantage of. When your products have worth, you will find it necessary to constantly increase your capacity in order to furnish the desired supply.

A WORLD-WIDE MOVEMENT

For the Elimination of Adverse Suggestion from the
Public Press, Public Amusements, and from Every
Other Factor that Affects, Directly or
Indirectly, the Public Mind

Conducted for THE PROGRESS MAGAZINE by the Leading
Authorities in the New Psychology

Series IV.

SINCE writing our last article concerning the evil effects and results of adverse suggestions of crime conveyed through the daily press, we have had our attention called to a specific case involving the very points mentioned in the said article. Before describing this case let us take a glance at the causes leading up to it.

The "Black Hand" Epidemic.

During the past few years the public mind has been filled with numerous sensational accounts regarding the existence of, and deeds perpetrated by, a mysterious organization known as the "Black Hand," composed principally of Italians, which organization conducted a blackmailing business on a large scale, the refusal to comply with its requests frequently resulting in assassination by knife, pistol, poison or bomb. The daily press, particularly the sensational publications, have contained countless reports of the operations of the band of desperadoes in all parts of the country, the accounts often being accompanied by ghastly pictures illustrating the scenes of the crimes, the blackmailing letters bearing the impress of a black hand, and other details of the crime. The public mind has been inflamed to a high degree because of these accounts, and the epidemic has spread with alarming rapidity. Originally confined to people of Italian birth, the criminal manifestation has spread to people of other nationalities in this country, and in many of our large cities there ex-

ists a state of fear almost unbelievable in a land like our own in this age. There is a feeling that the atrocities of the Mafia and other Italian secret societies are being repeated in our own country. To read many of the newspapers one would be led to believe that a huge, mysterious, sinister organization, with centers and branches and agents in every town, was at work systematically conducting a scientifically organized campaign of crime, far reaching in its ramifications, and so cleverly managed and conducted that detection is rendered almost impossible. In many cases people receiving the blackmailing letters, bearing the dread impress of the black hand, have been so impressed by previously read newspaper reports that they have given the money to the blackmailers without further parley, fearing to incur the dread vengeance of the sinister "Black Hand" society of which they have read so much.

The True Story of the "Black Hand."

Now what are the real facts of the case? All well-informed newspaper men in the large cities, as well as the leading police officials, know that there is *no such organization* as the "Black Hand" of the current newspaper reports. The true story is known to every editor whose journal nevertheless continues to print the "Black Hand" story and thus aids in spreading the reign of terror among the people. There is no secret about the matter in newspaper and police circles—the facts are known there—but, nevertheless,

the fiction of the "Black Hand" continues to be exploited sensationally for the purpose of adding "life and spice" to the news columns, and of causing an agreeable thrill of fear to travel up and down the spine of the sensation-loving reader. What is this "True Story of the 'Black Hand'?"

The beginning of the "Black Hand" myth is to be found in the imagination of a reporter of a New York newspaper, several years ago. There had been reported to the police a case of attempted blackmail in the Italian quarter, which ordinarily would have filled about five lines of small type in an obscure corner of the paper in question. These petty blackmailing schemes, accompanied by threats and often resulting in actual murder, were no uncommon things among the lowest class of Italian immigrants. In fact, the crime was an imported one, following the immigrant across the ocean. This system of blackmail, generally involving only small sums, was well recognized in the Italian quarters of New York, and very little was said to the police about the matter, the Italians usually settling the matter between themselves, and then keeping quiet about it.

The Birth of the "Black Hand."

In this particular case, however, the attention of the reporter was attracted by the impress of a black hand on the blackmailing letter. Signs of this kind, black hands, skull and dagger, etc., were quite common in such cases, and no significance was attached to them by those familiar with the subject of such crimes. But this reporter saw a chance for a "good story." He set his imagination at work. The "Black Hand," a society of international extent, with centers and branches, spies, agents, generals, and a perfectly organized plan of campaign for conducting blackmail on a large scale! Ah, ha! A fine story! Why not, indeed? And so he then and there deliberately *invented* the story of the mysterious "Black Hand" society; and the next morning his journal contained a long account of the matter, with big black headlines and photographs of the "Black Hand" letter.

The Growth of the Myth.

The story caught the popular imagina-

tion. People shrugged their shoulders and talked about the Italians and their secret societies, comparing them to the secret organizations believed to be existent among the Chinese, and equaling in sensational interest some of the wild tales of the French novelists. Other papers took up the matter, finding that the story had caught the public fancy. In order to "hold up their end" they were compelled to assume that the original story was true, and that everyone had known it for a long time. Reporters began to exercise their imaginations, and every few days some new and even more sensational story would be printed, showing some new and startling discoveries regarding the mysterious "Black Hand." Papers in other cities joined in the sensation. Weird tales were concocted and served to the public, whose appetite had been whetted, and who cried for "more and worse." Some papers even published copies of the rituals and oaths of the society, and told weird and gruesome tales of the fate meted out to traitors and resisting victims. For a time the public interest was held, and then some other sensation superseded it. The reporters forgot the story—but *others remembered it*. If the whole matter had terminated at that point, it would not have caused so very much harm—but what had happened was merely a seed-sowing. The growth of the idea, with its blossom and its fruit, was yet to come.

The Blossom and the Fruit.

Just about the time that the public had about forgotten the story of the "Black Hand," New York and other large cities began to be startled by stories of fresh outrages involving blackmail, threats and even murder, by gangs who had assumed the name of the "Black Hand" and who used the symbol on all of the threatening letters. Some even went so far as to send letters to the newspapers, announcing the fact that the Reign of Terror had begun, and that the "Black Hand" had renewed its campaign of crime. Among the Italians, and even outside of the people of that nationality, "Black Hand" outrages became quite common. Every few days some new atrocity was perpetrated. The police and newspapers were startled, and

although many of them knew the original story and its origin, they almost began to believe in the existence of the dread society.

But, when arrests began to be made at different points, and an investigation was instituted, it was discovered that the gangs of blackmailers were isolated, separate and disconnected, and that they had no relation to any national or international society named the "Black Hand." It was discovered that these gangs of low scoundrels, and some of a higher degree of intelligence, had read the sensational accounts of the original "Black Hand" society, and had conceived the idea that people being so thoroughly informed regarding the "Black Hand," and their minds being so filled with terror regarding it, many nervous or timid individuals could be easily frightened by blackmailing letters bearing the dreaded impress of the "Black Hand." And the results showed that they were right. Whenever a person received one of these terrible letters he would feel that unless he complied with its demands, he would bring down on his head the vengeance of the powerful international secret society, who would hound him to death. And, accordingly, the blackmailers found the scheme to be the best plan of extracting "easy money" that had been conceived for years.

The Aftermath.

At the present time, in all of the large cities, there are numerous cases of this miserable blackmail being perpetrated under the shadow of the fear of this fictitious "Black Hand" society. Many of these cases are never reported to the police, for fear of invoking the vengeance of the "society." There is, of course, no such "society"—nothing but isolated gangs of ruffians and low scoundrels plying their nefarious art under the guise of the "Black Hand." The newspapers, although knowing the truth, still continue to label every case of Italian murder, or other crime, as "Another Black Hand Atrocity!" or "The Vengeance of the Black Hand," or by some similar heading. All this, of course, adds to the public fear. Persons who would not fear an ordinary scoundrel or gang are ter-

rorized at the thought of a great "secret society" arrayed against them. But, even as it is, the public is gradually awakening to a realization of the facts. There have been a number of cases recently reported in which the blackmailers have been killed while attempting to extort money. Only a few days ago, in Chicago, a man was shot and killed while presenting a "Black Hand" letter to an intended victim. Some of them have been even routed by a hatpin in the hands of an indignant woman. The people are gradually awakening to a realization of what a lath-and-plaster thing the "Black Hand" is after all.

Incubating Crime.

But a great damage has been done—one which it will take many years to neutralize. Many young men, and older ones, as well, have been impressed with the fact that it is a comparatively easy thing to frighten ignorant people by "Black Hand" letters, and to extort petty blackmail. This crime has increased at an alarming rate in many of the larger cities of the country, and among the smaller towns as well. There has been developed a new kind of crime, and a number of new criminals to perpetrate it. The evil effects of this pernicious "Black Hand" sensation will remain with us for many years. It has made many new criminals, some of whom may remain criminals all their lives. For years to come the roll of the penitentiaries will bear the names of many who would never have become criminals had not the "Black Hand" stories given them the suggestion and incentive toward "easy money" by "working the Black Hand racket," as the crime is known among the criminal classes. "The Black Hand racket" has become as much a part of the vocabulary of crime as is the "hold-up stunt," which was largely exploited in the same way, many of the accounts of both crimes having been practically a course of instruction for suggestible youths of weak moral fibre and unsettled character.

We have dwelt in detail upon this "Black Hand" business for the reason that the known facts of the case, and the recorded results, show conclusively the evil effect of sensational newspaper ac-

counts of this kind along the well-known lines of suggestion. Every psychologist will agree in the statements contained herein. What we have said is no wild theory, but a well established scientific fact.

A Typical Case.

The particular case to which we referred at the beginning of this article is especially sad. It shows in a distressing way the existence of the very facts which we have just stated. It is a typical case of Adverse Suggestion toward Crime arising from sensational newspaper reports.

This particular case is reported by the Chicago papers in June last. Omitting names, the facts are as follow: Two boys, one of but fourteen years of age, the other fifteen years old, of respectable parents, and of religious training (one of them had just taken his "first communion" in his parents' church), had become so much impressed by the newspaper accounts of the successful "Black Hand" schemes that they determined to "make a fortune" in this way. They concocted a letter, addressed to a business man of Chicago, announcing the fact that the dread organization, the "Black Hand," was on his trail. The imprint of the black hand was attached. The letter demanded that a sum of several thousand dollars be placed in a certain spot, else the "society" would wreak its vengeance upon the man and his family. He was cautioned against informing the police, the fate of death being threatened if he violated this injunction. Other letters followed, and telephone calls were made. The man, becoming frightened, and believing that the "Black Hand" was really after him, notified the police, who laid a trap for the plotters. The man went to the appointed spot, at the stated hour, and deposited a roll of imitation money, and then left. The detectives in hiding then saw the boy approach and take the bundle. They shouted to him that he was under arrest, but he fled, only to receive the bullets from the pistols of the detectives. He fell, mortally wounded, and was carried to a hospital, where he died a few hours later. Before dying he made a full confession, stating

that he and his companion had "read of the 'Black Hand' doings," and had decided to "make an easy fortune" at one swoop. His dying confession corroborated in every detail the claims and statements that we have embodied in this article regarding the effect of these "Black Hand" stories upon the suggestible, impressionable youthful mind. The case is typical of hundreds, or thousands, of others not so well known. The tragic outcome serves merely to emphasize it.

The Blood on Our Heads.

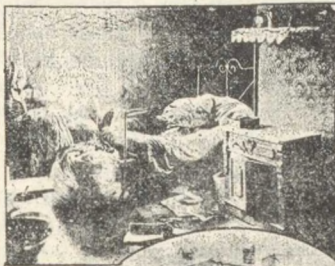
And, so, this youth of fourteen years, well trained, of good parents, surrounded by a good environment, *went to his death as the direct result of Adverse Suggestion of crime as contained in the daily press.* There is no excuse for this. A crime has been perpetrated against this boy—a crime as great as the one which he sought to commit. We have not only to forgive this boy—but also *to ask his forgiveness* for allowing to exist the conditions which brought about his downfall. His blood is upon our heads, try as we may to escape the accusation. Our ignorance and our supine indifference have allowed these conditions to exist. How long, O Lord, shall this thing be allowed to oppress Thy people?

The Kidnaping Epidemic.

Akin to the "Black Hand" epidemic suggestions, were those arising from the recently reported cases of kidnaping of small children. A celebrated case was reported in the papers all over the country. Not content with stating the crime and describing the child and the kidnapers, all of which would have served a good purpose in attracting public attention toward the detection of the kidnapers and the recovery of the child, the newspapers entered into long and sensational details of the method employed. Every step of the plot and plan was stated in full. As in the "Black Hand" cases and similar recitals of crimes, the reading of the accounts was akin to receiving a course of instruction in kidnaping. And the result showed that there were people ready and willing to profit by the full instruction so cheaply given. From different parts of the country came accounts of

Woman Is Shot!

EXTERIOR AND INTERIOR VIEWS OF THE ROOM IN WHICH WOMAN WAS MURDERED



CITYWIDE HUNT FOR DOCTOR'S SLAYER

DOCTOR SLAIN IN HOTEL WAS THRICE WEDDED

Knife and Pistol Used in Battle at Sixth Ave. S. and Third St.



CAPTAIN KANE TRACING THE POISON WHICH KILLED MRS. HALDANE CLEMINSON

STABS MAN WHO DIDN'T BUY DRINKS

Angry Bartender's Pin Arm to Heart of His Victim

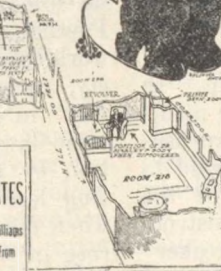
ASSAILANT HAS POLICE RECORD

CUTS WIFE,

DOCTOR IS HELD FOR WIFE'S DEATH

HUNG TO TREE, BY PLAYMATES

Six-Year-Old Girard Williams Has Narrow Escape from Death



LUNATIC TERRORIZES CITY WITH "BOMB"

But Explosive Proved to Be Nothing But Lamp of Clay

WOMAN RAKES CLEMINSON IN POLICE CELL

Some of Her Afflictions and Griefs, Says Nurse, Meeting the Accused Physician

PRISONER REPLIES, "SHUT UP"

GOULD SUIT

KILLS MAN TO AVENGE HIS HOME

GOT BULLETS NOT KISSES

FLAMING WARD FOR LATER

Young Bandits Shoot and Rob in Chicago

Two Men Are Held Up at Gun Point

Two Arrested and Confess

Man Killed During

Young Bandits Shoot and Rob in Chicago

Two Men Are Held Up at Gun Point

Two Arrested and Confess

Man Killed During

Young Bandits Shoot and Rob in Chicago

Two Men Are Held Up at Gun Point

Two Arrested and Confess

Man Killed During

Young Bandits Shoot and Rob in Chicago

Two Men Are Held Up at Gun Point

Two Arrested and Confess

Six Phases of the Great Death Mystery of Mrs. Haldane Cleminson



STRYCHNINE IS FOUND IN BODY OF MRS. ARCH

Chemist Reported to Coroner

Poison Was Found in Large Quantity

NEWSECRETS IN DEATH TRAGEDY

MME. RUIZ

CUTS WIFE AND SELF IN CAFE

LITTLE GIRL OF 7 WOULD KILL SELF

Abused by Mother and Sister, Desires to End Life

MEMBERS OF FAMILY ALWAYS BEAT HER

Gift From Education Before the Child Prings to Death

WOMAN SHOT! NEGRO SOUGHT

CONDEMNED MAN STABS SHERIFF ON SCAFFOLD

CAPTIVE TO GIVE CLEW TO DO

MINNEAPOLIS MAN KILL HIMSELF

CUTS WIFE AND SELF IN CAFE

LITTLE GIRL OF 7 WOULD KILL SELF

Abused by Mother and Sister, Desires to End Life

MEMBERS OF FAMILY ALWAYS BEAT HER

Gift From Education Before the Child Prings to Death

ENGLEWOOD WOMAN STRANGLED

"CAUGHT IN THE ACT."

A reproduction of several examples of Adverse Suggestion in the daily press, which speak for themselves. Each and every one of the headlines in the reproduction actually appeared in an American newspaper. We think that the reproduction gives us an object lesson worth more than pages of comment. It shows the newspapers "caught in the act."

kidnaping, all evidently based upon the original crime, so closely were many of the details copied. The similarity was too strong to have been a mere coincidence. It was a clear case of cause and effect—of action following suggestion. This particular epidemic, however, was checked in its early stages by the arrest and conviction of the original offenders, which served to chill the ardor of the imitators.

A Course in Safe-Breaking.

Several years ago a newspaper, in one of the large cities, published in its Sunday edition a full account of "How Safe-Breakers Operate," which was claimed to have been written by "A Notorious Retired Safe-Breaker." Full instruction was given, under the guise of the recital, in the art of opening safes and robbing them of their contents. The natural result followed. A number of new criminals—amateur safe-breakers—arose in various parts of the country, each crime being modeled on the printed account. Some were successful, others not. In several cases, when the arrests were made, the young criminals (alas! they are usually *young*, in these cases) were found to have in their possession copies of the Sunday paper containing the "instructions." If the "retired safe-breaker" really wrote this story, then he committed a crime far worse than any of his previous ones. For his original crimes were crimes against property, while his last one was a *crime against souls!* And if the first-named crimes were punishable, should not that last one have also been followed by severe punishment? Is it right that a man should be punished for wrecking the safes which contain our money, and allowed to go free when he wrecks the lives and souls of our young men? Is this Justice?

Psychological Crime.

These crimes of Adverse Suggestion are Psychological Crimes—as heinous as the Physical Crimes which we punish by imprisonment or death. Is it not time to recognize this fact and to adjust our Criminal Codes accordingly? As we have said in a previous article, it is not necessary to "suppress the news" in order to

prevent this adverse suggestion of crime. Criminal news may be reported and printed in such a way as to offer no adverse suggestion—even in a way to offer a suggestion *against* crime rather than for it. Every newspaper man knows this. The newspapers are not the real offenders. The real criminal is The Public which demands and insists upon being given the "disgusting details" of these things—which cries for the sensational accounts and "instruction in the crime" in all of the leading cases. It is these "details" which give the Adverse Suggestion—these word pictures which produce Mental Images in the imagination of impressionable people, along the lines of suggestion. Psychologists understand how and why these suggestions are received and accepted by impressionable and suggestible people. They understand also why the suggestion "tends to take form in action" corresponding to it. This is no idle fancy of fanatics, or theorists. Psychological Crime is a reality—and the world should awaken to the fact. Society, to-day, is an "accessory before the fact" in many of these cases. Some day some lawyer will create a painful sensation by producing these facts, and putting leading psychologists on the stand, when defending some client in a criminal case in which is involved the element of Adverse Suggestion through the newspapers. If it be a crime to sell morphine or cocaine to those addicted to the drug habit—a serious crime to sell liquor to the Indians in the West, lest they be started on the "warpath"—then is it not a crime to pour these Adverse Suggestions into the minds of suggestible and impressionable people? Modern Psychology gives no uncertain answer to this question. And the Public will see it plainly, *some day*—some day after it has taken even more toll from the people.

Billboard Suggestions.

There has been a movement under way in many of the large cities to repress the posting of immoral posters and pictures on the billboards and walls. This movement, however, seems to have confined itself to efforts to prohibit the posting of pictures tending toward lewdness and vulgar display. So far as it goes, this

movement is commendable, but it does not begin to go far enough. In order to really be effective, it should include a crusade against theatrical posters depicting crime. To some this may seem like fanaticism, but if these objectors would but converse for a short time with people engaged in the work of protecting and sheltering delinquent and defective children, they would see a new light in the matter. Some of the objectionable posters depict villains attacking others with knife or pistol, "hold-ups," train robberies and similar crimes. Busy men and women pass by these pictures without receiving any impression, except possibly a feeling of disgust. But one witnessing the attention paid to these prints by the children in the poorer section of town, and realizing the suggestive effect upon the minds of these children, will see the thing from a different angle. To listen to the discussions of some of these children, and to note the criticisms bestowed upon them, is an experience calculated to startle the average citizen who has paid little or no attention to the subject.

The Gentle Art of Killing.

Some weeks ago we were passing through a part of the city supplying the principal attendance of the cheap "blood and thunder" theaters. Our attention was directed to a large billboard upon which were spread large posters depicting a murder of a woman by a masked desperado. Imagine our surprise, upon listening to the remarks of a crowd of urchins, none of whom seemed over twelve years of age, when we heard one little fellow in knee-breeches finding fault with the picture because it showed the villain using his knife in a style other than that approved of by the critic. The youthful expert in the gentle art of assassination then proceeded to instruct his audience in the proper manner of using a knife to "slit a throat," as he expressed it. He showed how this criminal and that one had used his knife, which knowledge, we judge, he had obtained from other pictures, judging from his remarks. In order to make his remarks effective the boy pulled from his pocket a large knife with a blade several inches long and, grabbing a comrade whom he bent

backward, he went through the pantomime of murdering him. Not content with this, he instructed his admiring audience in the art of using a knife as a dagger, showing that the majority of pictures which showed the knife held pointing downward from "de little finger side" of the hand were incorrect, and that the knife should be held as a sword "from de tum side, stickin' right cut." The audience seemed to agree with him fully, and showed an almost equal knowledge of the subject. The acts of criminals were introduced into the discussion, and there was evident a close mental connection between the newspaper reports of crimes and the billboard pictures of similar crimes.

The Billboard School of Crime.

These billboard pictures afford a complete school in crime to the children who are most likely to be affected by them. These pictures are not, as a rule, posted in the parts of towns in which dwell the children whose parents carefully guard them against influences of this kind. This because it does not pay to advertise these shows in these sections. These cheap "blood and thunder" shows are generally produced in neighborhoods from which they draw their principal patronage—the poorer sections of the town. The children of these sections lack many of the protective influences bestowed upon those of wealthier parents, and much of their time is spent upon the streets in companionship far from desirable. Settlement workers can tell you many shocking tales of this state of affairs. These children see these objectionable pictures before them week after week, and take a great interest in them. The youthful mind likes pictures of *action*, and these pictures are full of action of the very worst kind. The youthful mind becomes filled with mental images of every conceivable kind of crime, and, as, according to a well-known psychological law, these "mental images, constantly held, tend to take form in action," the result may be imagined.

Images Take Form in Action.

From time to time we read of young boys practicing upon other boys, or young

children, the scenes depicted in some of these billboard pictures. Only a few months ago a young child was smothered to death in this way by some boys who were "playing robber" *a la* the billboard display. We hear of cases of boys being gagged and robbed of money given them for the purpose of buying groceries and provisions. Last year, in a neighboring city, a gang of boys caught a strange boy and "lynched" him "for fun," as the perpetrators afterward declared. They had sought to "play" a wild western lynching party, and had accordingly tied a rope into a noose, which they passed over the head of the strange boy, and then drew him up over a beam. When he was lowered, life was extinct. Another crowd of boys kept some smaller boys "prisoners in a cave" (the cave being a cellar of an abandoned house) for two days. These crimes existed as mental pictures in the minds of these boys before they "took form in action." And they existed as printed pictures before they became mental pictures. It is very easy to trace cause and effect in occurrences of this kind.

You Are Responsible For It.

All this does not make pleasant reading—it is not intended as such. It is stated without dressing up or softening, that it may reach your consciousness in its exact crude and elemental reality. Ask any settlement worker, or anyone connected with the Juvenile Court of a large city, if this statement is an exaggeration. You will be surprised to hear such people say that we have told but the superficial facts, and that under and behind these things lie others which are unprintable and almost untellable. You who have never noticed these things are asked to use your eyes and your minds, hereafter. Take a good look around you, and see these things with the eyes of a child. The child notices and sees everything in the shape of a picture with action in it—put yourself in the place of the child and see for yourself. Then ask yourself if you would like *your* children to be subjected to such influences and adverse suggestions of crime nearly every day. But do not stop here. Even if *your* children are safely protected and guarded—how

about the children of others who cannot guard their little ones as you do yours? Your duty does not cease with protecting your own children—do not echo the excuse of Cain and exclaim that you are not the keeper of your brother's children. For *you are responsible* in so far as you refrain from exerting every proper effort to terminate the evil which threatens the children of others.

The Straws Showing the Wind.

In order to show you how the public mind is now being aroused on the subject of these articles, we have thought fit to include the two following quotations from leading Chicago newspapers. They are the straws showing the direction in which the wind is beginning to blow.

This first quotation is from the *Chicago Tribune* of June 22, 1909:

WOULD STUDY NEWSPAPERS.

President Judson Suggests Investigation in Place of Indiscriminate Criticism.

Why not investigate American newspapers? This was the suggestion made by Harry Pratt Judson, president of the University of Chicago, in an interview yesterday, elaborating views expressed at Western Reserve University in Cleveland. He added that Chicago newspapers would rank high.

"In place of indiscriminate criticism," he said, "I should like to see a careful study made of the methods of the hundred leading newspapers of the country."

"Sensationalism of the everyday type is a menace to the public, and the argument that it offers what the public demands is no defense."

This second quotation is from the *Chicago Daily News* of June 21, 1909, quoting from the *New York Times*:

SUNDAY "COMICS" A MENACE.

Ethical Culturist Tells Mothers They Are Vulgarizing the Child.

"There is only one word that I can say about reading the comic supplement of Sunday newspapers," said Mr. Chubb, in addressing the New York Public School Kindergarten Association, according to the *New York Times*, "and that is: 'Don't!' Try to get your children and the parents of other children to 'don't.' The comic Sunday supplements must positively be banished from the American home. It is, in the first place, a purely inane and utterly asinine form of 'literature.' There are in it always the same violences of color, form and interpretation. Harmless as it may seem, it is one of the most dangerous and degrading influences of our modern child's life."

"The child in the comic supplement is always the 'smart kid.' The absolute abomination of American life is the 'smart kid.' He is the worst thing all foreigners have against us. We must get rid of him. He begins to 'rough-house' in the nursery and hazes the kindergarten. Uncles and aunts, fathers and mothers,

are alike made clowns in every comic supplement in order to make attractive to the American youth this ideal of the 'smart kid.'

"The Sunday comic supplement is the greatest destroyer of reverence and the worst diffuser of vulgarity—and vulgarity is the bane of our modern life. The Sunday supplement, combined, I might say, with vulgar and lurid advertising, is the chief factor in the vulgarization and debasing of the child to-day. It produces the commonplace kind, the mind which does not know the higher from the lower, and could not recognize the high or noble if it came in contact therewith.

"The newspapers are largely responsible for this commonplace mind, yet they give us this and other things only because we demand them. We have unfortunately contracted the 'newspaper habit.' On Sunday mornings, while the father is buried in the real estate section and the mother in the fashion section, while the sister has run away with the romantic and the

brother with the lurid section, the young child begins to cry and to quiet him we toss him the gaudy comic supplement as his portion. The elevation of the child's literary taste must come from the parent down.

"It may be objected that if we get rid of the Sunday comic supplement we will have a gap that must be supplied somehow. Supply it by substituting something better, for example, the colored picture book for children, as in Germany. In that way we would supply the child with that kind of interest on which the Sunday comic section relies for its effect, but which the comic supplement debases.

"Though this section is rather pictorial than literary, it must be remembered that culture is acquired largely through the eyes, not through the book. It is a painful reflection when we consider that the great sculpture and the pictured windows on which the middle ages relied to teach culture to the young have to-day been displaced by the comic Sunday supplement."

(Another article in this series will be published next month.)



RESOURCES AND INDUSTRIAL CONDITIONS OF WEST VIRGINIA.

By HON. WILLIAM E. GLASSCOCK

WEST VIRGINIA has many advantages that contribute to the growth of its manufacturing interests, which, according to value of products, form the chief field of industrial activity. First among these advantages is the abundance of cheap and excellent fuel; a condition favorable to manufactures in general, and especially to such important industries as the manufacture of iron, steel and glass. Water-power is also very plentiful and well distributed throughout the state. A third advantage is the excellent means for water transportation, for, although West Virginia is entirely inland, it has within its boundaries four navigable rivers. All these rivers traverse the fuel-producing districts and finally discharge their waters into the Ohio, which, for nearly 300 miles, forms the western boundary of the state. Moreover, the railroad has penetrated

nearly every section of the state and adds greatly to the facilities for transportation.

West Virginia possesses all that is necessary to make a state great and prosperous. In location she is extremely fortunate, being so central as to be exempt from extremes of heat and cold. And what will be as much, if not more, appreciated, she is immune from that extreme sectionalism that is so hostile to intellectual growth and development. In area she has 24,625 square miles—three times as large as Massachusetts, twice as large as Maryland, and as large as Rhode Island, Delaware, New Jersey and Vermont combined.

West Virginia is a great storehouse of natural wealth, and is richest in resources of any state in the Union; and, though they are almost intact as yet, development is bringing them to the markets of the

world. She ranks first in lumber, first in oil and gas, second in coke and third in coal. Seventeen thousand two hundred and eighty square miles of her area is rich in coal—more than eighty per cent of the bituminous area of Pennsylvania and Ohio combined; sixty per cent more than Pennsylvania alone, and 2,000 square miles more than Kentucky and Tennessee combined. West Virginia has 16,000 square miles of virgin forest, and the largest body of hardwood timber in the United States; the largest gas field in the world; vast pools of petroleum; immense quantities of iron ore, limestone, sandstone and clays of every variety. Nearly every valuable mineral deposit, except gold and silver, is found within her borders. She has fine, workable veins of red fossil and red and brown hematite and iron ore, which are equal in quality and quantity to the ores of east Tennessee. These are found in the mountain ranges in the counties of Greenbrier, Pocahontas and Pendleton. Deposits of iron ore of considerable extent and good quality are found in the mountain ranges of the Potomac in the counties of West Virginia bordering on the old state. Rich deposits also exist on Elk River, a branch of the Great Kanawha.

The population is rapidly increasing, and in every way the state is forging to the front. In character of her people she acknowledges no superior. They are largely American and descended from a pioneer stock from Virginia, Pennsylvania and Ohio, with a good sprinkling of Puritan blood. To these are added enough immigration from other states and abroad to make a healthy and sturdy people, who have adapted themselves to the various resources of the state and have become a healthy, contented and prosperous people.

The line of demarkation between the very rich and very poor is indistinct. The working people are noted for their honesty, industry and intelligence. The character of the people, the mild and equable climate, the endless variety of employment, the unsurpassed resources of the state, all unite in inviting immigration. Here labor finds a fair field in all the avenues of employment, at just and reasonable remuneration.

In West Virginia we have 2,000 manufacturing establishments, representing sixty-seven industries, employing 52,000 men and women, an invested capital of \$61,000,000, a total value of product of \$105,000,000 and a yearly payroll of \$40,000,000.

There are 780 producing coal mines, employing 58,000 people, with a yearly payroll of \$32,000,000.

In all these vast mining and manufacturing interests there is not a single industrial disturbance.

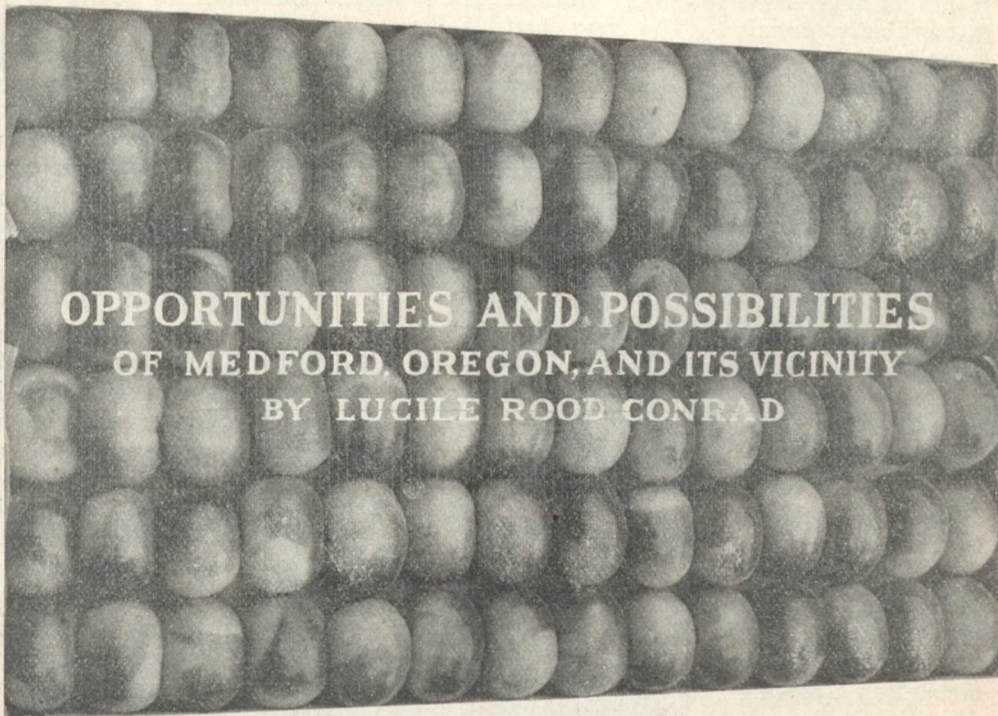
The facilities for railway transportation are constantly increasing. Since 1906 there have been 376 miles of railway constructed in West Virginia, making a total of 3,640 miles.

In the fourteen southern states, West Virginia ranks first in the value of property and mineral products and fifth in the United States in the value of mineral products.

New industries established in West Virginia from 1897 to 1907:

Years.	No. Employed.	Amount of Wages Paid Monthly.	Capital Invested.
1897-1899.....	298	10,186	\$345,816
1900-1901.....	362	16,956	780,527
1920-1903.....	564	16,089	738,368
1904-1905.....	482	10,133	426,472
1906-1907.....	470	13,205	573,704
Total.....	2,176	66,569	\$2,864,887
			\$162,402,533





**OPPORTUNITIES AND POSSIBILITIES
OF MEDFORD, OREGON, AND ITS VICINITY
BY LUCILE ROOD CONRAD**

MOTHER NATURE was good to the valley of the Rogue River, in Oregon, when she showered her choicest bounties upon it; and in the midst of this glorious valley she placed a little town called Medford. A rare and salubrious climate, a soil so rich as to almost surpass belief, beautiful scenery, mountains stored with coal, copper and gold, extensive forests of unestimated value, streams stocked with the delight of the fisherman's heart, "speckled beauties," quail, grouse, deer and bear in abundance, and the gateway to CRATER LAKE, the greatest natural wonder in the world—such, in the fewest possible words, is the condition in the famous Rogue River Valley, in Southwestern Oregon. If one were ever justified in lauding the wonders and possibilities of any land, he is certainly justified in giving this beautiful valley and its throbbing, wide-awake heart, the progressive city of Medford, a full measure of praise. The object of this article is to tell the readers of this worthy magazine something of the conditions existing here, that they may know and enjoy, if they will, this garden spot of the West.

Perhaps it may be said that the chief pursuit is fruit-raising, and well it may be said, for at present there are about 50,000 acres set to fruit trees, and it is fully expected that at least 1,000,000 more trees will be planted during the next tree-planting season. The orchards vary in size from five acres to 1,400 acres, and apples, peaches, pears, plums, apricots, prunes and cherries are raised commercially, while strawberries, loganberries and currants form no small part of the fruit-raising industry. Probably the most celebrated fruits from the valley are the Spitzenberg and Newton Pippin apples and the various varieties of pears. At the present time there are 2,500,000 young apple and pear trees alone in the valley. From 200 to 300 cars of apples are shipped out of Medford each year, and if the newly planted and prospering orchards which will come into bearing within the next few years are any indication, there will be thousands of cars of apples shipped out of Medford annually in the very near future. The effect of this great industry upon Medford and the valley in general is becoming more and more evident, and Destiny

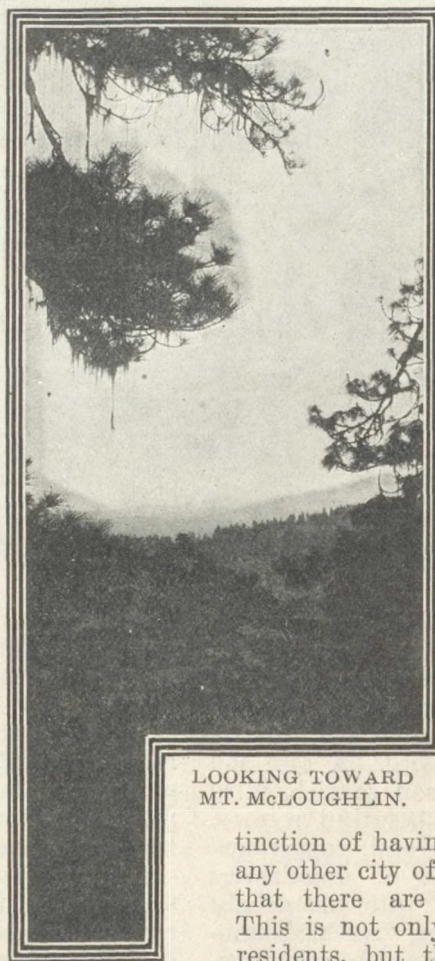
points its finger inevitably to a future of extraordinary promise. The very best thought of the brainiest men in Oregon, and in the United States, has been given to this horticulture since the possibilities of the business have become known, and no effort is spared on the part of the orchardists or the government to produce the finest and best grade of apples and pears from this valley that there are in the world. Time and space will not permit one to go into detail about these orchards, but the accompanying pictures will give some idea of the scene in an orchard on a picking day.

Then there are the mines. Many localities have mines, but nowhere are they more thrifty than here. The Blue Ledge copper mine, on the California-Oregon line, is in an extremely rich stage of development, and it is tributary to Medford, owing to the plans of kind Mother Nature in laying out the valley. This is the pioneer mining district of Oregon. Gold was first discovered in Jackson Creek in 1851, bringing thousands of fortune-hunters over the Siskiyou, and for years Jacksonville, which is now the county seat of Jackson County, and located five miles west of the present site of Medford, was one of the liveliest gold districts in the West, and is still a mining center. Marble is one of the chief sources of wealth. Sandstone for building purposes is found in several localities; cobalt, nickel, zinc, arsenic, graphite, clays, calcite of limestone, and also the

rare metal, platinum, are found in the valley.

The present upbuilding of the railroad facilities, the recent discovery and the development of coal, now under way, and the opening up of the largest sugar-pine timber belt in the world adds decidedly to Medford's assets. Rogue River furnishes enough power for every conceivable purpose, and its influence will be tremendous in the development of this great and rich territory, besides adding to the comforts and pleasures of life. Nearly every ranch is equipped with electric lights, which makes their lighting problem simple and easy and indicates something of the prevailing wealth of the community. I might also add that Medford claims the distinction of having more automobiles than any other city of its size in the world and that there are more typewriters used. This is not only the case with the city residents, but the ranchers as well are nearly all supplied with typewriters and automobiles, and it is a sight to the newcomers to see the number of automobiles from the country lined up before the eleven churches on Sunday mornings, having brought their respective owners to their places of worship.

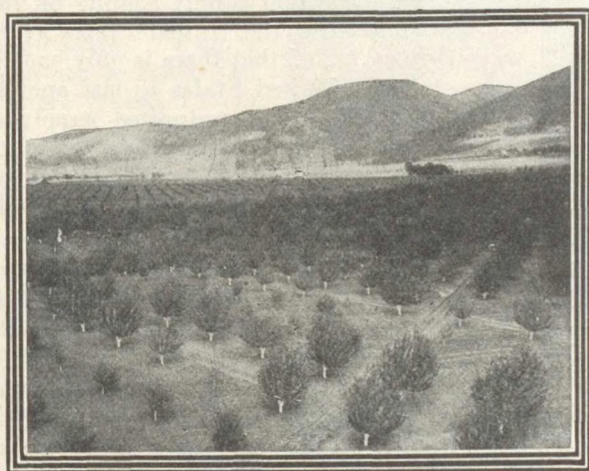
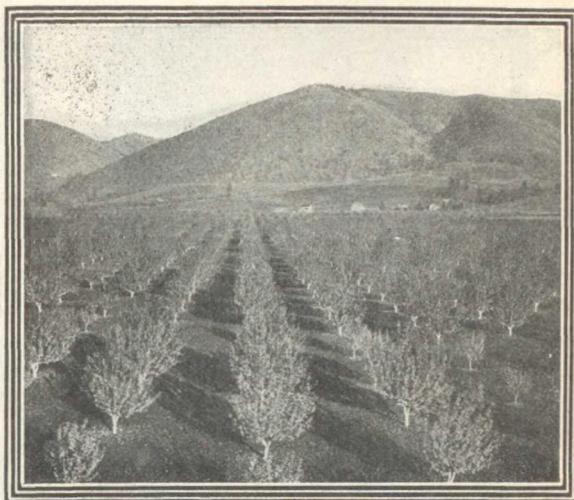
It is hard to realize that with the completion of the extension of the Pacific and Eastern Railroad, which is now being rapidly pushed, a new era of prosperity for Medford will dawn, and that it will tap one of the greatest timber belts in America. It is interesting to note that it is the largest body of standing sugar pine in the world and the largest body



LOOKING TOWARD
MT. McLOUGHLIN.

of timber accessible by a lateral road in the United States. This will inevitably mean factories and mills for Medford, which means pay-rolls and money in circulation. Some of the finest furniture material in the world to-day is accessible in this little city among the mountains.

Dear to the heart of all hunters and fishermen, and, it is almost safe to say, dear to the heart of every man and boy in the United States, here in abundance may be found what so many lovers of the gun seek for in vain—unlimited, diversified



But, no matter how fertile a valley, how prospering the country may be, it must needs have an outlet to the outer world and a shipping point for the output of the produce and a thriving, throbbing heart for a business center—in other words, the concentrated activity of the people at large. Rogue River Valley has this in the city of Medford, situated on the banks of Bear Creek, surrounded with green fields and blossoming orchards, doing justice to the most critical of artists, beyond the art of artificial reproduction or the power of descrip-

shooting. Quail, Chinese pheasants, mallards and teal, pigeon, ruffed grouse and mountain quail are some of the winged game that you can see on any bright fall morning a few miles out of the city, and the woods are full of deer and bear. So plentiful, in fact, are the deer that a large doe was shot and killed last October in a pear orchard within one-fourth of a mile from the city limits. The numerous streams that abound through this section are all well stocked with gamy trout, and the jack-rabbits hop up and run along beside you if you go for a stroll outside of the business center of the city.



ORCHARD AND GARDEN SCENES FROM
NEAR MEDFORD.



tion by the author's pen. A climate that raises roses nearly the entire year, fresh strawberries on the table eight months in the year, with an invigorating atmosphere that refreshes, and a cool breeze that braces, makes Medford an almost ideal place in which to live. The paved streets, brick business blocks, banks, eleven churches, good schools, well stocked and modern stores, abundance of fruit and vegetables at any and all seasons, and its remarkable healthfulness as shown by vital statistics, are only a few of the conditions that exist in Medford.

The government recognizes the possibilities in the great Northwest, where its projects cover nearly a million acres and each year marks a new era of development and civilization extended to the re-

motest corners. Now that the worst stages of development are overcome and railroad facilities are theirs, it is the man that comes in and helps make known the unlimited advantages that will reap the harvest of finances. The earnest, energetic, hustling business men of the East and Middle West, are gradually looking towards the coast, as their grandfathers flocked to the Middle West in the earlier dates. It is quality that Medford and the Rogue River valley are seeking and they can justly pride themselves now on having the fewest foreigners of any city of its size along the coast.

With our fruit industry growing every year to an enormous size and bringing almost incredible results from the market, with our coal supply coming on immediately after the United States geologists have stated that there is only enough coal in the United States to last another hundred years, our unlimited supply of the most marketable timber in the United States and the other most natural resources make this inevitably a place with a future hard to realize.

And last, but not least, this is the natural gateway to CRATER LAKE NATIONAL PARK, a park set aside by the government covering 249 square miles and comprising one of the greatest natural wonders of the world, and the only one that historians, geologists, botanists



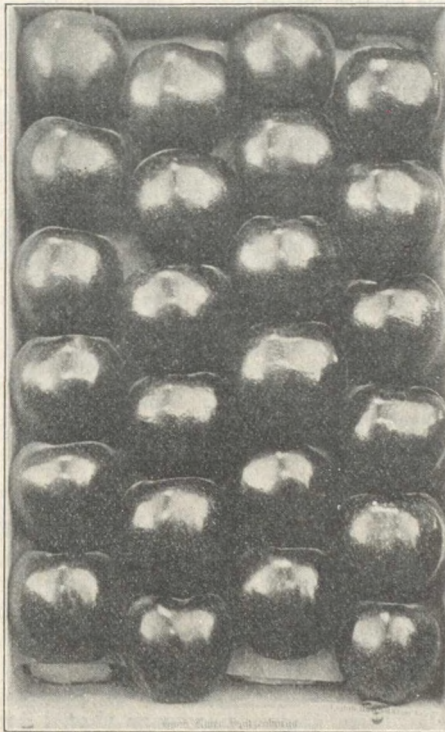
APPLE HARVESTING IN A MEDFORD ORCHARD.

and zoologists alike are baffled on, that seems to have no history, no base for history back of the past few years. That it is the rim of an old and extinct volcano, one that has blown itself out, and that it is filled with the clearest and coldest water, clear as crystal, with no visible outlet or inlet, is known to be true, but why it is true is a question that hundreds of intelligent men have failed to solve.

The lake is oval in shape, six miles long and four miles wide, with a depth of from 4,000 to 6,000 feet, and so clear the bottom can be seen in places. The water is pure and cold and sweet. Snow men can be made and flowers picked from the rim of the lake in July; the place is filled with interesting places, and the legends told of it by the Indians and the early white settlers would make a book in itself. Scenery seldom surpassed for its naturalness, its wild,

tumbling, happy-go-lucky, rollicksome spirit, must be gone through to reach the lake from Medford, which is the natural railroad point to the lake. It is here that campers and tourists prepare for the journey and start on this most interesting trip. Splendid hunting grounds and camping places are en route and the trip itself is one of unceasing delight from start to finish, with this wonderful

lake for a climax. The freedom of development and the unlimited beauty and grandeur and advantages invite inspection and settlement in this great Northwest, and it is the purpose of this magazine and this article to invite its worthy readers to participate in this opportunity and investigate it with the purpose of settlement and location in some of the healthful and delightful homes on the coast. Medford's advantages are most apparent.



HOOD RIVER SPITZENBURGS.

YOU can feel the way you want to feel, regardless of what may happen. You can control your moods just as easily as you can your muscles. You never have to feel hurt, or disappointed, or sad, or blue, or out of sorts. It is your privilege to feel well and happy at all times, and it is only necessary to exercise this privilege under every circumstance. You do not have to take into the body what you do not want; you do not have to take into the mind what you do not want. Say "NO" just as firmly and finally in the one as in the other, and the "trick" is done.



TWISTED AND TURNED*

(A Novel)

BY S. J. MITCHELL.



SYNOPSIS OF PRECEDING CHAPTERS.—Melville Reardon, a young man of lofty ideals and almost uncontrollable ambitions, yet a complete failure, wonders why he cannot realize his ambitions and make his dreams come true. He feels that that mysterious something that has given him such an intense desire for greater things should also give him the power to gain those things. He begins to search for the cause of his confusion and failure, and finally resolves never to give up until he has found someone who can solve the mystery. Through his employer, Richard Spaulding, Reardon meets Alexander Whiting. Whiting is a prosperous business man, who takes pride in the fact that his success is due to persistent desire. He calls to see Mr. Spaulding on a business matter and happens to mention the cause of his success in the presence of Mr. Reardon. This arouses Reardon's curiosity, which in turn arouses Mr. Whiting's interest in the young man. It is then arranged that Mr. Reardon is to call that evening at the home of Mr. and Mrs. Whiting, where he is to meet Cyril Janos, who is said to possess the very information Mr. Reardon desires to secure. This arouses Mr. Spaulding's curiosity and he makes Reardon promise to tell him all about it the following morning. When Mr. Spaulding comes home that evening his daughter, Adeline, thinks she sees a change in her father, and she is right. He is beginning to change, and for the first time begins to appreciate that strange something about his daughter which has made her one of the most lovable women in the world. She does not ask him, however, what has come over him, but continues the dream of her ideal love, someone whom she has never met, but certain that she will meet him soon. Mr. Reardon finds Mr. and Mrs. Whiting to be friends after his own heart and finds the wisdom of Cyril Janos to be the solution for his problem. Before he leaves, Mrs. Whiting invites him to call the following Wednesday evening, when two exceptional people are to be present, and when some subjects that are dear to every heart are to be discussed according to the new views of life. On the street car, on his way home, Mr. Reardon meets Mrs. Arnold, who invites him to call the following Friday evening to meet a young woman whom she has selected to be Mr. Reardon's wife. He accepts the invitation against his will and wonders as he reaches his own home why he wants to meet this young woman, and yet feels deep down in his heart that he should have refused the invitation. He resolves to keep his appointment, however, and retires, his heart full of joy because he has now found the way to realize his ambitions and to make his lofty dreams come true.

VI.

WHEN Melville Reardon appeared at his work the morning after that most wonderful day and still more wonderful night, he was greeted in a manner that could not have been more gracious had he been some highly honored guest. Richard Spaulding had arrived much earlier than usual, and was anxiously waiting to learn what exceptional information had been divulged at the home of the Whitings the night before.

"Come into my office at once, won't you please?" he began the very moment he saw Mr. Reardon. "Now tell me all about it," he continued as the door to his private sanctum was closed behind them. "Excuse me for being in such a hurry," he went on as he offered Mr. Reardon a chair directly in front of his own, "but I have several significant reasons. I believe some big things are going to happen here to-day. I just had a most important telephone message. This calls upon me

to decide in a matter that requires extraordinary judgment. But before I take that matter up I must know what you were told last night. It is necessary that I should know before I can proceed with the problem that I have just been requested to solve. And it is especially necessary that I know something definite about Mr. Whiting. Kindly tell me just exactly what you think of him. You may be surprised at my curiosity, but I have reasons, business reasons, and the exact facts may mean much to you as well as to Mr. Whiting and myself."

"My candid opinion is this," Mr. Reardon replied, "that Mr. Whiting has no superior in the business world. He holds an excellent position at present, but he is certainly able to fill one that is many times as good. And he undoubtedly will secure something that is much better very soon. His rise has been rapid since he became a friend of Cyril Janos, and when you become acquainted with that remarkable man—and I would advise you to take steps in that direction at once—you will readily appreciate the reason why."

*Copyright 1909, by The Progress Company.

"So you really got something out of your visit, did you?" interrupted Mr. Spaulding.

"I certainly did. That man seems to know everything, and he has promised to tell me all he knows."

"Well, now, you are in luck at last; and I am glad; but do you know if his extraordinary knowledge is of practical value?"

"Yes, that is the beauty of it. It is all practical. And you may think I am in luck to get it; but I have another name for that phenomenon."

"Very well, Mr. Reardon, but we shall not have time to discuss scientific terms just now. Tell me more about Mr. Whiting. What does his present position pay, do you know?"

"Four years ago, at the time he first met Cyril Janos, he was working for twenty-five dollars a week. His present position pays him \$12,000 a year. But according to my judgment he could easily fill, full to the brim, a place that pays several times as much."

"You really think so?" Mr. Spaulding asked excitedly.

"And why not? I just stated that he had no superior anywhere in the business world. I came to that conclusion last night. You would come to the same conclusion if you could enjoy an hour of intimate conversation with him. But my judgment is not the only source of information that I possess on that subject. I met the president of the firm this morning with which Mr. Whiting is connected."

"You did—accidentally or how?—and what did he tell you?"

"You would call it accidentally, a mere coincidence, but that is another phenomenon for which I have found a new name."

"There now, never mind your new names. What did he say about Mr. Whiting?"

"He said that Mr. Whiting was a marvel, especially in executive ability and in his wonderful control over men. He said that there were over a thousand men, nearly all nationalities represented, working at his factory, and there was not one of those men that would not do anything Mr. Whiting wanted done. The order

and harmony in that establishment had been practically perfect, he said, since Mr. Whiting had taken charge, about a year ago, and he added, with deep satisfaction, that the profits of the concern had, during the same period, been twenty-five per cent greater than any similar length of time in the past."

"But I am happy to hear that," declared Mr. Spaulding, in a tone wherein excited interest was strangely blended with the keenest delight. "Your meeting that man this morning may solve my problem," he continued, "but how did it happen if it was a coincident and not a coincident?"

"The man simply came up and spoke to me at the elevated station as we were waiting for the train. You know I am extremely happy this morning, and I suppose I showed it very distinctly. The first thing he said to me was, 'What is the secret, young man, of that wholesome, inspiring smile?' 'But I tell you,' he continued after a slight pause, 'it does a man good to see a smile like that. I wish I could get it; though I ought to, as I see it every day. The manager of our factory, Mr. Whiting, uses that brand altogether.' I then told him that I had met Mr. Whiting twice, and without me asking a single question he volunteered all the information I might have desired concerning what he was pleased to call 'the greatest marvel in the business world to-day.' As we parted he concluded by stating that he, himself, did not feel much like smiling, as Mr. Whiting was far too big a man for his present position, and would naturally find opportunities higher up before long."

"Well, if all of this is not too funny. You discovered accidentally this morning, or whatever you may call it, the very thing I wanted to know after receiving that telephone message. Strange, very strange, indeed. But can you tell me where to reach that man by telephone? I must speak to him at once."

"Yes, here is his business card. I don't don't know why he gave it to me, but he did nevertheless."

"Thank you, Mr. Reardon, thank you ten thousand times. You have rendered me a great service, and some day soon I shall be most happy to have the privilege

to do something special for you. And now go to your work for a few minutes while I call up this man. When I am through I will want you to come in again and tell me everything about your wonderful experience last night."

"I shall be ready to tell you everything whenever you want me, Mr. Spaulding, though I do not see how it would be possible for you to enjoy hearing about it as much as I shall enjoy telling about it," said Melville Reardon as he smilingly left the room. He went directly to his desk, but he had scarcely been seated when he was approached by a somewhat ordinary-looking man holding a large newspaper clipping in his hand. "Is this your advertisement?" he asked excitedly.

"It is," replied Mr. Reardon.

"Then give me particulars," he demanded in a voice that revealed a fair degree of intelligence and feeling incoherently blended with a large degree of crudeness.

The particulars were promptly handed to him in the form of an assortment of attractive-looking printed matter.

"You know my youngest brother died a short time ago," he went on as he was hurriedly glancing over this "special information" on "where to invest your surplus earnings," "and he was insured. That's how we happen to have some ready cash to invest just now."

"But I'm sorry to hear that," Mr. Reardon replied sympathetically, "especially since he was the youngest. Young people should live. I like to see them have a chance first to get something out of life, or at least to prove that they had something in them—something that was worth much, even though it did not last long."

"You are right in that," the stranger replied, slowly and meditatively, "but it finally happened as we expected."

"Was he sick long?"

"No, only a few weeks this time, but he was down seriously for many months when he was about six. Mother said at that time that he couldn't live, and even after he got well she insisted that his life would be short. I don't know why she thought so, but we all somehow got to thinking the same. There were eight of us in the family, and all of us got to

feeling more and more that little brother wouldn't be with us very long. That's why we had him insured, though we really couldn't afford it."

"How old was he when he died?"

"About twenty."

"So it took fourteen years for your expectations to come true?"

"Yes, fourteen years."

"Did he also think that his life would be short?"

"Oh, certainly. Our fears for his life were often talked about in the family. And whenever he would get a cold or something, mother would tell him to get ready to meet his Maker. She seemed to think that every time he didn't feel quite right the end was near. But he hung on for quite a while; though he went at last just as we all expected."

"The whole family, then, sort of lived constantly in the fear of his death?"

"Yes, that's true."

"Did you, or any member of the family, ever read the Bible?"

"I should say so; every day; most surely, we are all regular church members, and in the best of standing."

"And do you remember of ever reading somewhere in that book about the thing I feared has come upon me?"

"I have read it many times. But what do you mean by asking me that?"

"Think a while, and you will know."

"You don't mean to say that that boy died because we all feared it, do you?"

"My friend, I am only quoting scripture. Though I am inclined to think that if the whole family had spent fourteen years expecting that boy to live a long, healthful life, you would not have had any insurance money to invest to-day."

"I think I understand," he said, slowly, his eyes gazing into empty space, while his depressed countenance revealed the troubled efforts of his mind trying to grasp some unknown something that seemed within his reach and yet beyond him. "We all made a mistake," he continued, after a few moments of painful endeavor to suppress the tears; "it is dawning upon me now—it was all wrong—we scared him to his grave—the dear boy—he should have lived—he might have lived—but we didn't know—it was all wrong."

"Thank you," he exclaimed, extending his hand to Mr. Reardon, "for telling me this." And almost choking with emotion, he concluded, as he turned to leave, "We will not do it again—if we had only known it before—but we will not—no, we will not—"

He was gone, but the deep impression that his brief visit had made upon the mind of Melville Reardon was destined to remain.

"Why did I speak to the man like that?" Mr. Reardon mused to himself. "I never thought of that ancient statement of Job before as having that particular meaning. But it is clear to me now that that is what it means. What we fear comes; what we don't fear doesn't come, can't come. Strange doctrine surely, but I can think of hundreds of incidents in my life and my observations that prove it. But I wonder what I am going to find out next?"

He had barely finished this brief meditation when Mr. Spaulding again called him to his private office, and he responded instantly, with a new joy in his heart.

"I reached him all right," Mr. Spaulding began, his face lit up with the sunshine of real, whole-souled satisfaction. "And he gave me all the information I wanted," he continued, "not suspecting my object. But you know the best place must have the best man, and the smaller must not complain when it loses that which is ready for the larger. You will understand after a while, Mr. Reardon, what I mean. And now tell me what you learned last night, but kindly omit the details for the present. I called up Mr. Whiting also. He will be here in about thirty minutes. I have a matter of great importance to discuss with him, and by first knowing something about these ideas through which he has become so remarkably successful, I shall be in a better position to properly place my questions."

The thirty minutes proved far too short for such an important report; but Mr. Spaulding gained sufficient for the object he had in view. And he also gained such a deep interest in what he termed the "Janos Philosopohy" that he resolved to go and secure every fact known to that remarkable scientist, no matter what the cost might be.

"My problem is solved," he declared with enthusiasm, as he noted that the time for Mr. Whiting's arrival was almost at hand. "And now I am going to prove to myself," he said, as he arose and placed his hand affectionately upon Mr. Reardon's shoulder, "that my solution is most happy. You will be interested to know what it is, my good friend—you have been a real good friend to me to-day, and I want you to remain right here during my interview with Mr. Whiting. In fact, no one deserves more than you to know the inside facts in this case, as it was your 'out of the ordinary' smile at the elevated station this morning that has made possible what is going to happen now."

VII.

The thirty minutes had passed, and Mr. Spaulding was informed that a splendid-looking gentleman was waiting to see him. "Come right in, Mr. Whiting," he said, as he stepped to the door and gave his distinguished visitor a handshake that would have quailed an ordinary mortal. "You are the one man that is wanted here to-day," he continued, with a smile that was almost like that particular brand that had been mentioned an hour or two before.

"Thank you, Mr. Spaulding; no greater honor can man receive from man than what you have just conferred upon me," said Mr. Whiting in that strong, quiet tone that seemed to cause even the elements of the atmosphere to stop and listen. "To be wanted," he resumed, with added emphasis, "is the greatest privilege of all; you can therefore imagine my appreciation of the manner in which I have just been received."

"The honor, the privilege and the appreciation is even greater on our side, Mr. Whiting, I assure you; but be seated; we have something of exceptional importance to discuss with you, and it is a matter that does not permit of delay."

"I am at your service, Mr. Spaulding, and shall apply my best efforts in directing the issue before us toward a successful termination."

"Then we shall proceed at once. And, to begin, Mr. Whiting, may I ask of you a number of personal questions?"

"You may ask me anything you like. And though I am not egotistical, still I feel

I can truthfully say that if you cross-examine me closely you will find a few things in my experience that are worth finding. Not that I discovered the ideas that originated those experiences; others did that; but it has been my privilege to prove those ideas to be true."

"Therefore, Mr. Whiting, it is your privilege to feel proud, very proud indeed. The man who has done something worth while should not be called upon to designate himself as 'your humble servant.' Let us be done with the word 'humble' as well as the attitude which it represents. The majesty of the universe calls upon man to look up, not down. And it is my conviction that the man of great deeds not only may, but must, give himself full credit. If he does not, he is dealing unjustly with those precious faculties that he has received from nature and from nature's God. He who declares that he is nothing also declares that his creator is nothing. Despise effect and you despise cause. But which is the greater, the man who discovers or the man who demonstrates, is one of those questions that has no answer; personally, however, I am very fond of the man who demonstrates. To him who can prove the truth—to him will I bow in reverence any time and anywhere."

"Most excellently stated, Mr. Spaulding. Thus far your ideas are thoroughbreds in every sense of the term. And if your other ideas belong to the same superior class, you are already within the boundary line of that philosophy into which Mr. Reardon was initiated last night."

"Most of them are, I think; and in that case my initiation will come easy. But that is another matter. What I want to know now, Mr. Whiting, is what methods you have employed in attaining such a remarkable degree of success both in your work and in yourself. I have inquired about you somewhat extensively, not for curiosity, but for business reasons; I will explain these reasons shortly; and I have secured facts concerning you that are simply astounding. I want to know your secret. How did you begin? How did you proceed after you actually had begun? And how did you reach your present position? Kindly tell me as briefly as you can and as concisely as you can. You

will confer a great favor upon me, and several others, by so doing. And please remember that I am just as interested to know how you gained your present personal worth as how you gained your ability and power in the commercial world. You have not only become successful in your vocation, but also in your life; while you have been increasing your salary you have also been increasing your manhood and your finer personal qualities; for every dollar you have added to your bank account you have added several to the riches of your mind and soul. And let me tell you, Mr. Whiting, there are few such men."

"Your appreciation, Mr. Spaulding, is extraordinary, indeed, but my gratitude is far greater, whether you think such be possible or not. However, I shall not express my feelings in this matter; first, because they are too deep for verbal expression; and second, because I am here to answer your questions. And this I shall do with the greatest of pleasure."

"Yes, tell us, Mr. Whiting, how you began; what happened first as you emerged from that twenty-five-dollar-a-week sphere of existence?"

"To answer that I should have to tell you first about my wife. I owe the change for the better exclusively to her; not for what she had done, but for what she had failed to do. When I married her she was in very poor health; in fact, she had been almost an invalid for years. That is how I happened to win her. If she had been well she would not have married an ordinary man like I was at the time. She was so brilliant in mind and so beautiful in soul that had she had physical health and personal attractions to correspond, she could have married her choice from the best men in the world. But the best men in the world are not looking for sick girls."

"Nevertheless, she won the best man in the world without knowing it at the time," interrupted Mr. Reardon. "Though she knows it now," he added, with assuring emphasis.

"Again I should be happy to fully express my appreciation," continued Mr. Whiting, "but again it is too deep for verbal expression. I will therefore go on with my narrative. I married when I

was twenty-nine; she was but a few days younger than I, though my mind, compared with hers, was an infant. I was not specially ambitious. I had a fair degree of ability, but used only a small fraction of it, having no particular aim in life and no real desire to do more than what was necessary to earn a comfortable living. I had physical strength, but my personality was weak and somewhat crude."

"And to think that you now are what you are," exclaimed Mr. Spaulding, "the most refined and highly polished personality I ever saw, and with a personal power that could hold an audience of a million in a breathless spell of adoration and awe. Wonderful! Wonderful! But go on, please go on."

"Immediately after our marriage I began to see what could be done to restore my wife to perfect health. But there seemed to be nothing that could be done. She had tried everything; that is, she thought she had, all to no effect. I therefore began to feel more and more that there was no help, and was almost on the verge of reconciling myself to her pitiful condition. Then something happened. During the first year of our marriage her condition remained unchanged; she got neither better nor worse; but at the beginning of the second year she began to get worse. And that was the beginning of the change. I began to realize that I might lose her; and as I thought of what such a loss might mean to me I began to look at her in a manner that I had not been conscious of before. Gradually it dawned upon me that I had a most precious jewel. I had always thought of her as an extraordinary woman, but now I began to see that she could possibly not have an equal anywhere in the world. And should such a woman die? I declared, 'No! a million times no!' and for the first time my soul was really alive. There were two things to be done. I must find something to make her well, and I must do something to get a better position, so that her needs could be properly provided for. I then had two ambitions, two ruling desires, while previous to that I had none."

"There is where the power of persistent

desire began its work, did it not?" inquired Mr. Reardon.

"Yes, there is where it began; and from that moment those two desires—the desire to find something to make her well and the desire to secure a better position for myself—became stronger and stronger until they seemed to dominate every thought, every action, and the very life of every atom in my being. Hundreds of times every day I would say to myself: 'I must find something to make her well,' 'there must be a way, and I am determined to find it.' I would express myself in a similar manner concerning a better position, and I discovered that the more I thought of realizing those two desires, the more power and persistence they seemed to gain. This would increase my faith in myself, and it was not many weeks before I began to believe that I actually would find what I sought. In about four months my expectations were realized. One evening I purchased a paper having the opposite political complexion to the one I was accustomed to read. That was something I had not done in several years. Why I should buy that paper that evening I shall not venture to explain; though I have an idea; we may discuss that some other time; but I bought that paper, and it contained what I wanted to know. I put it in my pocket, and when I reached home I gave it to my wife, not having read a word in it myself. She opened it and turned at once to the editorial page, something she had never done before, it being her custom invariably to begin with the first page and read right on to the last. The first thing she saw was a small paragraph, down in the lower right-hand corner, and the title was 'A Remarkable Cure.' The paragraph went on to say that a certain woman had been cured by the use of a strange power awakened in her own system. It gave the name and address of the woman and a few general, unintelligible statements concerning that power. That was all. But I lost no time. Within twenty minutes I was having an interview with that woman. She told me that it was the 'Janos Philosophy' that had made her well, and gave me the address of that remarkable man."

"But if that doesn't sound mysterious

from beginning to end," exclaimed Mr. Spaulding; "but I must admit that it is fascinating beyond anything I ever heard."

"Yes, it sounds mysterious; but it happened; and it was the means through which the power of my persistent desire realized its object in view. Besides, hundreds of such events are taking place in every community every day; and when we stop to think about them we find that they are not any more mysterious than the fact that you can hear the sound of my voice."

"You are right, Mr. Whiting. Everything is mysterious; and from a certain point of view everything is weird. Though it is also a fact that the more mysterious a thing seems to be at first sight, the simpler it becomes when we understand it. The answer being, I suppose, that such things lie closer to first principles, and those first principles, the foundation of things, are naturally the very essence of simplicity."

"That explains it perfectly, Mr. Spaulding; and I cannot tell you how happy I am to know that your mind also finds delight in going down to rock bottom."

"Yes, I think I have some real ideas, not counterfeits or cheap imitations; but I have not learned how to turn them all to practical use. There is where you have succeeded so admirably, Mr. Whiting; and if you are through with your preliminary narrative, I wish to ask you how you began to apply that new philosophy. What did you do first, second, third, fourth, and so on?"

"Yes, I am through with the first chapter of my narrative, except to add that Mrs. Whiting and myself began the very next day to study the 'Janos Philosophy.' She began to improve in health from the very beginning, and was entirely well in less than five months. A few weeks later I secured a new position with twice the salary I received before. That was three years and a half ago. What has happened since would fill a book."

"And it would read like the most fascinating of fiction, I am sure," said Mr. Peardon.

"Yes, it would to me, because I know that it is all true; and the nearer you get to truth the easier it is to outdo fiction, both as to mysteriousness and fas-

cination. But you are waiting, Mr. Spaulding, for an answer to your question."

"Yes, I am waiting with measured breath, and I shall be more deeply interested in your answer than anything I have ever heard. My reason is that the ideas back of your answer have produced such extraordinary results; and with me it is results that count."

"There were several things," continued Mr. Whiting, "that I undertook to do first; and one of them was to train myself to be strong and quiet on the inner side of my personality."

"And what do you mean by the inner side?"

"Everything that is not on the surface. The actual and vital contents of your system, both personal and mental. Or, everything that you feel in your nature when you feel deeply."

"I understand; but what was your object in doing this, and how did you proceed?"

"I tried to combine the feeling of all the strength I could realize with the feeling of the deepest calm I could realize. The object was to gain personal power, and to gain perfect control over that power."

"Is this the only method you have employed in building up your personal power to such an astonishing degree?"

"What personal power I have I have gained principally through this method."

"In that case it needs no further recommendation. Because, when it comes to personal power, both in quantity and in quality, you tower mountains above anyone I ever saw. Mr. Whiting, every movement you make is a movement of authority and power. Your very attitude is a command; and when you speak there is something in your tone that makes me feel as if it were not only a sacred duty but a great privilege to obey. And yet, you do not seem to make the slightest effort to influence or control anybody."

"That is the truth, Mr. Spaulding. I never try to control anybody; I would lose my power if I should; I simply control myself. And this comes naturally when the art of being strong and calm at the same time is constantly cultivated."

"But how do you proceed to combine

those two attitudes? Is there any special easy method?"

"There is no special method, to my knowledge. And I never found it necessary to inquire about such a method. I secured the results I desired by simply beginning, as far as I could, to be quiet and strong in my deeper feelings, and then continuing as I had begun."

"Is that all there is to it?"

"Practically so. I make it a point to feel strong and quiet constantly, and to feel the combined actions of those two feelings as deeply as possible. I try to live in an attitude that combines calmness and strength; I try to do all my work in that attitude, and several times a day I give a few moments to the further cultivation of that attitude. Continued efforts in trying to feel very strong and deeply quiet at the same time will train the system to build up that attitude. Then it becomes second nature, an acquired state, a newly developed power."

"It is a matter of making up your mind what you want to do, and then making up your mind to continue to do what you originally made up your mind to do."

"You have stated the simple fact, Mr. Spaulding, both wisely and well."

"Yes, it is quite clear to me, and I can readily understand how this attitude could be cultivated to such a degree that its possibilities would be nothing less than marvelous. But what were the other things, Mr. Whiting, that you undertook to do first?"

"I began to build up my ambition for what I wanted to accomplish in life. And I selected that ambition that produced the deepest impression upon my mind and the keenest delight in my heart when I thought of it. Though I did not make my choice until I had turned the matter over in my mind, consciously and subconsciously, for several weeks."

"And what was your choice, Mr. Whiting?"

"To become the manager of a great concern; to guide men—not to control men—but to guide men in their work. And every position I have held since I began to advance has given me the privilege to exercise this ambition."

"But how do you account for the fact that your ability to carry out this ambi-

tion has steadily developed? Is there some other method through which this has been done?"

"When you become more and more ambitious to do a certain thing, the force of that ambition will steadily increase the power and the working capacity of those faculties that are naturally called into action as you proceed to carry out that ambition."

"I understand. If I should become more and more ambitious to become a great musician, the force of that ambition would tend to develop the musical faculties."

"Precisely; but results would depend largely upon how well you had cultivated the deeply calm attitude. The greatest forces in the universe move in absolute stillness, and it is only the force that is still that has the power to build."

"Your ideas are most excellent, Mr. Whiting. You certainly have the rock bottom of things as your foundation. But kindly proceed."

"The power of persistent desire was the third factor that I began to employ at the very beginning; and with this I combined the attitude of positive expectation. I would desire constantly and persistently whatever I wanted; then I would expect to receive what I wanted. But my expectation was never passive; it was always active in the fullest and most positive sense. Another important factor was what I am pleased to call constructive optimism."

"That's new, but it has the right ring. Kindly explain it, won't you please?"

"The constructive optimist incessantly declares that everything is coming out all right, and is constantly at work with might and main to make his prediction come true."

"Splendid, indeed. If that is optimism then I am every inch an optimist. And I can readily understand that such an optimism would have the same effect upon a man's career as a propeller would have upon a ship. As long as that optimism was in action the movement would be forward regardless of the waves and the storm."

"Yes, that is the truth in every instance, and there are no exceptions whatever. But now, Mr. Spaulding, I am

going to sum up those several things that I undertook to do first. So if you have further questions, kindly get them ready. My final step in this first movement toward better things was to become an uncompromising idealist. I began to use all the forces of thought and imagination in working up to my ideal, and I began to train all my faculties to focus their activities upon that goal I had in view; and I am now convinced that every element in my being is working for me, working with me, helping me to press on and on toward everything that I am determined to reach."

"That is the greatest secret of all, is it not, Mr. Whiting?"

"Which might be the greatest is difficult to say, because they are all necessary; but one thing is certain, when everything that is in you is working for the same purpose that you are working for, that purpose will be fulfilled. When all of you is with you, no obstacle is great enough to stand in your way."

"The more you say, Mr. Whiting, the more convinced I become that you have the kernel, the very thing we all want. Your ideas are as sound as the principles of mathematics, and it is my conviction that those ideas will solve all our problems when we begin to apply them as you are doing. I could ask you a thousand questions this minute, but I shall not take up any more of your time just now. You have said many times as much as would have been necessary to convince me of your fitness for a certain important position, that I shall now take the pleasure to offer to you, and I am fully satisfied that you can fill that position with greater efficiency than any other man that could be found."

"Mr. Spaulding, your kindness is great indeed, and I assure you that a kindness shown to me is never forgotten."

"I believe everything you say, Mr.

Whiting, and now I am going to tell you what this interview has been all about. One of my best friends is president of a large manufacturing concern in this city. For certain reasons, the details of which we shall not discuss just now, the manager resigned. There are several men under consideration for the vacancy, but they are hardly big enough for the place. My friend telephoned to me this morning, and asked my assistance in finding a good man, and he said that they would accept without further question any man that I might recommend. And I thought of you, Mr. Whiting, at once. Though I knew nothing about you this morning, except what I saw and heard of you while you were in here yesterday, still I resolved that I would investigate your fitness for the place before I even thought of anyone else. Now I know enough about you to give you a stronger recommendation than I could give to any other man I ever knew. That position is for you, Mr. Whiting, and I shall be happy indeed if you will accept it. There are over six thousand men employed in the main factory, and there are nearly half as many more in the branch factories. All of these would come under your supervision. The salary is \$40,000 a year."

"Mr. Spaulding, words cannot thank you for this, but actions speak more eloquently than words. And my actions will speak just exactly as I feel. I will accept the position, and may the day come quickly when I shall have the opportunity to return the favor."

The three men parted, all going to their respective duties, and all realizing that big things had happened there that day, as expected. They were all happy, supremely so; to each one of them the future looked brighter than ever before; they felt equal to anything now; and it was well, for little did they dream what another week would bring forth.

("Twisted and Turned" began in the July issue of The Progress Magazine. To be continued next month.)





WHERE FLYING

MACHINES ARE MADE

By PENELOPE GLEASON KNAPP.

MEN do not attain the goal of their desire by chance, by the riotous play of the imagination, nor yet by graft and greed. Chance is a fickle, unreliable goddess. Imagination, when not tempered by cold, hard discipline, is a trickster, a spend-thrift, a gymnast, playing at leap-frog, through the realm of fancy. Her world is a chimera, peopled with dream children, who in the face of reality vanish like dew before the sun. Men who court success through the medium of graft and greed invariably meet rebuttal, because all who practice these twin evils are unprincipled and brutal. They burn commercial incense on the altars of false gods. Consequently they blaze no trail for honest men to follow, and the smoke of their avarice merges into nothing. Therefore success remains only for the man who thinks truth, lives truth and is truth. The stickler for truth and right reaps a golden harvest for himself, and simultaneously abets and promotes some great project to still the crying need of his fellowmen. He is a co-worker with and for humanity. He is instrumental in sustaining, evolving and individualizing the development, not only of his own na-

tion, but of the entire world. Such a man is Glenn H. Curtiss, one of the youngest, and at the same time one of the foremost aeronauts of the age.

Mr. Curtiss was born in the village of Hammondsport, at the head of Lake Keuka, in western New York, where, with other boys, he tramped the vine-clad hills, fished in the inlet with bent pins, and carved his name in the wooden benches of the old stone schoolhouse, near the glen for which he was named. It was here that he dreamed his dreams of great things to come, and painted fanciful aircrafts, which were predestined to take on material form and sail over the self-same area where the boy's imagery had first pictured them. Mr. Curtiss has brought to his native heath more fame and wider interests than any dweller in the drowsy little berg had ever dreamed of having existence. To-day the names of Glenn H. Curtiss and Hammondsport are household words throughout the civilized world. To say that the young aeronaut's townspeople are proud of him is putting it very mildly indeed. Mr. Curtiss first became known to science through the manufacture of motorcycles and engines, and to the world at large

when he made his famous run against time at Ormond Beach, Florida, in February, 1906, on a specially constructed forty-horsepower motorcycle in 26 $\frac{2}{5}$ seconds, 136 $\frac{1}{4}$ miles per hour, the fastest recorded time ever made. However, this achievement, though mighty in itself, only served as a stimulus to the man, who in boyhood had marked his goal of desire among the clouds.

From this time forth Mr. Curtiss bent every energy toward the realization of aerial navigation. He worked steadily, but quietly, developing, experimenting and contriving, until the feasibility of the enterprise took definite form in his brain. He became confident that it needed but a few more strokes of genius or of science, or, better still, the combined strength of both, to produce startling results. Aeronautics became the man's walking, breathing, waking and sleeping hobby. He did everything but talk his pet theme. As may be supposed, Mr. Curtiss is not a loquacious man, but, like most men who have achieved greatness, he has an intent way of listening, calculating and extracting, when others converse, and thus he has added and will

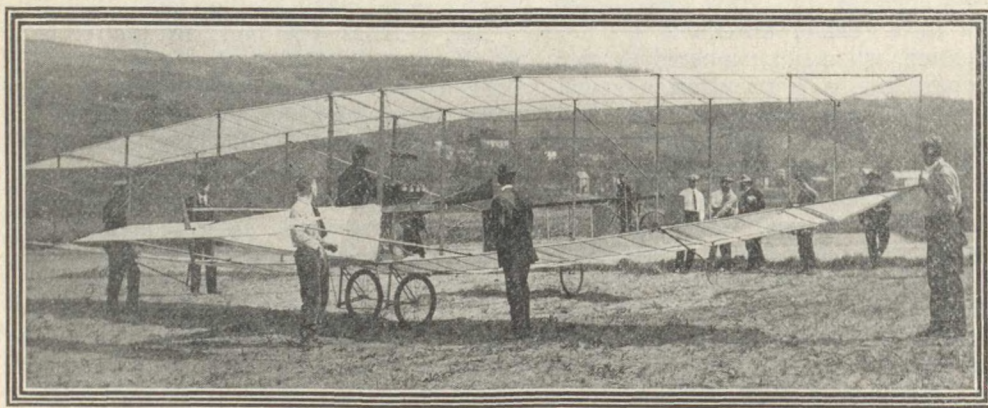
day, some way, the necessary funds must be forthcoming. All unknown to the man who longed so earnestly to travel the sidereal depths, the silent forces which his ardent desire had set in motion were already working in unison with other great minds, and by the law of vibration, which culminates and unites cause and effect when the time is ripe, the means with which to propagate and promote aerial navigation were placed at his disposal.

Opportunity raps at least once upon every man's door. The wise and discerning take heed and grasp the proffered hand. The would-be aeronaut was alert, and so it came about that when that world-renowned philanthropist, discoverer and inventor, Dr. Alexander Graham Bell, paid Mr. Curtiss the compliment of a formal proposition along aeronautic lines, that the Aerial Experimental Association of America was formed at Hammondsport, N. Y., October, 1907, with the following members:

Dr. A. G. Bell, President.

Mr. G. H. Curtiss, Director of Experiments.

Lieut. T. E. Selfridge, Secretary.



THE WHITE WINGS.

The man in the foreground, with his back toward us, is Charles Oliver Jones, who lost his life last September in the flight of the "Boomerang."

continue to add many a golden link to his already long chain of victories.

Mr. Curtiss, like many another genius, lacked the means with which to further and abet his project. However, he did not waver. He felt confident, with all the finances in the universe, that some

Mr. F. W. Baldwin, Chief Engineer.

Mr. J. A. D. McCurdy, Treasurer.

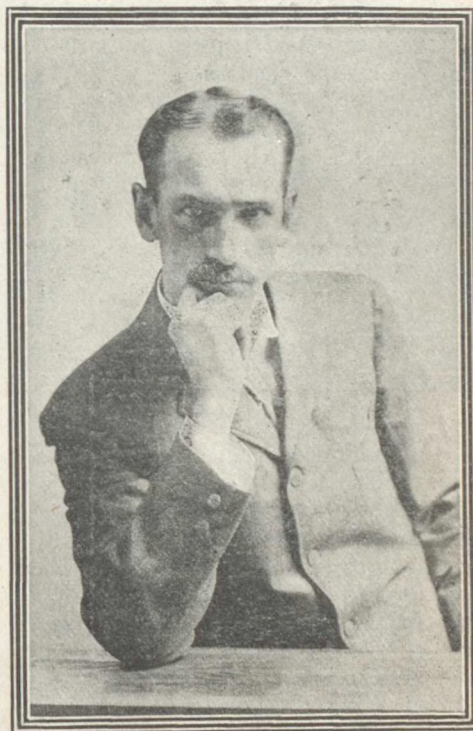
The confidence of Mrs. Bell in the new enterprise was at once made apparent by her generous offer to furnish funds for the building of experimental aerodromes. Each member of the association was li-

censed to construct a machine after his own idea and design, to become his own property. Lieutenant Selfridge, of the United States Signal Corps, First United States Field Artillery, and at that time, though but twenty-five years of age, acknowledged to be the best-informed aeronaut in America, was given the place of honor, being the man chosen by the association to construct the first experimental aerodrome. For many years Lieutenant Selfridge had studied carefully and seriously the methods of all the great aeronauts of the world, but more especially those of Lilienthal, Herring, Chanute and Maxim. Lieutenant Selfridge selected from each of these what he believed to be the most practical points, and, combining them with his own ideas, he constructed an aeroplane which was christened "Red Wings."

At the same time the other members of the association improved their time in building gliders and experimenting with them upon the snow-custed hills of Keuka, during the winter of 1907-08. This was done to test and determine more closely the equilibrium of aeroplanes. The gliders were of the biplane type, and few accidents occurred. "Red Wings" was constructed upon lines similar to the gliders belonging to the class of aerodromes known as the Chanute, which are built to give a form of least resistance, according to experiments made by Professor Zahm. They conform somewhat with steam line theory. The supporting surfaces of the aerodrome bore close resemblance to the wings of a bird, the double curvatures of the surfaces being obtained by the use of curved ribs, made up of four laminations of wood, each one-eighth of an inch thick. The spread of the wings was 43 feet and 4 inches, the engine used being an 8-cylinder Curtiss, air-cooled motor, weighing 148 pounds; with oil tank, batteries, shafting, coil, etc., it weighed 185 pounds. The steel propeller weighed 15 pounds, had two blades, a diameter of six feet and two inches, and a pitch of about four feet. It was driven direct. The engine and shafting were mounted horizontally, the fundamental principle being to produce an aeroplane with head resistance reduced to a minimum, and power sufficient to

insure its flight. The total weight of "Red Wings" was 500 pounds.

March 12, 1908, marked an epoch in aerial navigation, "Red Wings" being the first aerodrome to make a public flight in America (the flights of the Wright



GLENN H. CURTISS.

brothers' aeroplane having been made in secret at Dayton, Ohio). F. W. Baldwin, of Toronto, and chief engineer of the Aerial Experimental Association, was the aviator. "Red Wings" flew successfully over the ice on Lake Keuka, the distance covered being 319 feet, at an elevation of twenty feet from the ice surface, the feat being witnessed by many people. Numerous other flights were accomplished, but "Red Wings" was doomed, and on March 17 she came to an untimely end, being completely demolished, the result of a slight mishap. Thus the history of the first aerodrome to give a public exhibition in America was made.

"White Wings."

Following the demolition of "Red Wings" came the construction of "White



THE JUNE BUG.

Wings," by F. W. Baldwin. This machine was fashioned much after the same style as "Red Wings," many improvements, however, being added. "White Wings" measured 43 feet and 6 inches from tip to tip; the same engine was used as in "Red Wings," having entirely escaped injury in the accident. "White Wings" complete tipped the scales at 600 pounds, a gain in weight of 100 pounds over "Red Wings." This gave a flying capacity of $11\frac{1}{2}$ pounds to the square foot, compared to $11\frac{1}{4}$, in "Red Wings." Altogether this machine was a decided improvement over the first, and great things were expected of her. The entire company were most sanguine of success. On May 18, 1908, the first trial flight was made, but disappointment followed close in the ship's wake. Undue pressure of air on the elastic rear edge fouled the propeller, only 93 yards being accomplished. The second trial resulted in a flight of 240 feet at an elevation of 20 feet. The third, and what was destined to be the last, flight of "White Wings," covered 339 yards (1,017 feet), in 19 seconds. This trial was made with Mr. Curtiss as operator. The engine used was a 40-horsepower, a duplicate of the one used in his famous motorcycle record at Ormond Beach. On May 23, like her famous but unfortunate sister, this machine met with an accident which crippled her beyond repair. The existence of

"White Wings" covered only five days. However, much knowledge had been derived from the building and operating of the two aerodromes, the second so far having eclipsed the first as to lend impetus to the idea of a third. Not daunted nor in the least discouraged—upon the contrary, with hope mounting to greater heights than ever before—this little band of earnest, enthusiastic men set about plans for a third venture.

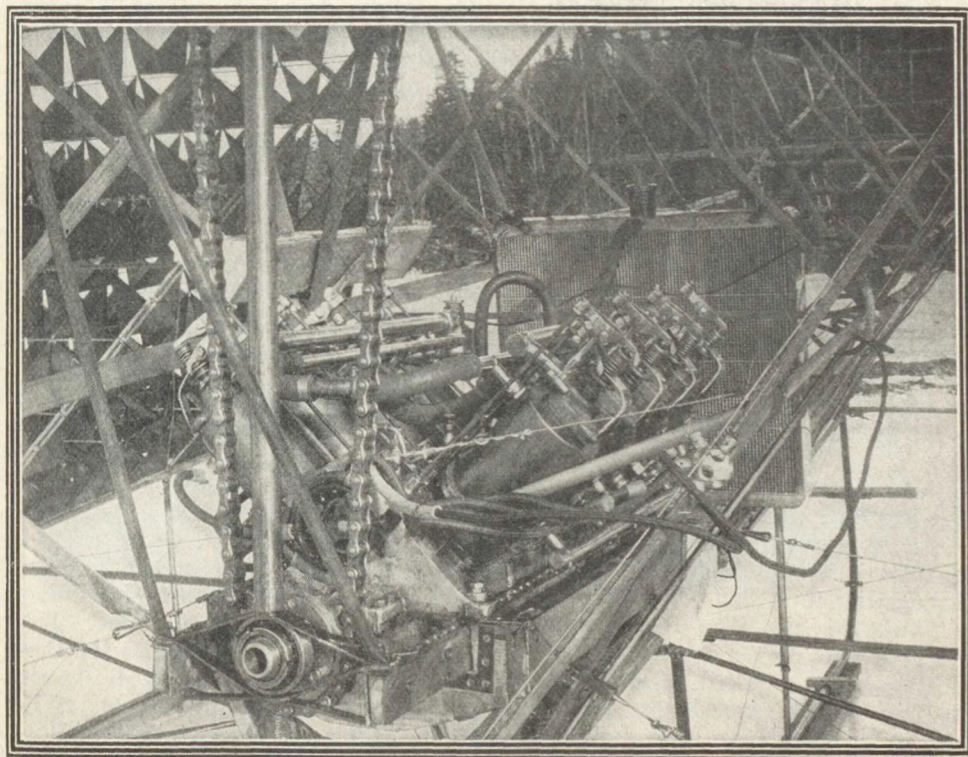
"June Bug," Winner of the American Trophy.

Aerodrome number three was designed and constructed by Mr. Curtiss. This machine was built upon new lines, lines more specific, more accurate, more practical. In her theory merged almost completely into practicability, and, as later results proved, demonstrated Mr. Curtiss' keen perception in aeronautics. The gearing of the wing tips in this aerodrome was simplified by a new system of wiring, and so arranged that when not in motion they rested at a neutral angle. This conception moved the operator's seat forward and the engine back. The aerodrome was $27\frac{1}{2}$ feet in length, the nose wedge-shaped instead of pointed, and left uncovered. The propeller was 5 feet and 11 inches long, which allowed the engine to turn up to 1,200 R. P. M., instead of 1,050 R. P. M.; a vertical rudder, 36 inches long, was used. The distance between the center of gravity of the operator and the center of gravity of the engine was six feet. This machine was christened the "June Bug," because of its birth in the month of June. The "June Bug" proved conclusively that she

was not an experimental machine. She flew, not a few yards, to fall in disgrace, but rather did her proud owner operate her at will, compelling her to turn and dip and describe circles at his own pleasure.

Immediately succeeding the first public flight of the "June Bug," the Aero Club of New York received a communication to the effect that the Aerial Experimental Association of America were in a position

from all directions came pouring into the small city of vines at the head of Lake Keuka—the farmer, the vineyardist and the hillite from rural solitudes brushed elbows with scientists, aeronauts, newspaper men, photographers and the simply curious from many cities and many lands. All, however, were bent upon one mission, that of witnessing the official flight of the "June Bug" for the coveted first American trophy in aerial navigation.



THE ENGINE OF AN AIRSHIP.
Fifty Horsepower—Water-Cooled.

to compete for *The Scientific American* Cup.

Winning the Trophy.

On July 4, 1908, the sleepy little village of Hammondsport and all the neighboring hills awoke to a realization of the fact that living in their midst was a great man, an aerial wizard, whom they, their children, their children's children, and all generations to come, would speak of with reverence. Long before day-break, on that memorable anniversary of our nation's freedom, masses of humanity

Foremost among the eager, jostling crowd of spectators were Augustus Post, secretary of the Aero Club of America, Allen Hawly, vice-president of the club, and Captain Thomas Scott Baldwin, who has the distinction of having made over 3,000 flights in air crafts of many and varied designs (and who has since won the second prize offered in America for aeronautics), Mr. Lake, of submarine interests, and last, but not least, Augustus Herring, who subsequently has become identified with the Herring-Curtiss Company, formed at Hammondsport, for

building air crafts. The flights for the cup were made at Stoneybrook Farm, Pleasant Valley, the company's testing ground, two miles from town, all of which were a pronounced success. The distance covered by the aerodrome for the prize, as specified by the society, must cover at least one kilometer. This was not only accomplished, but the "June Bug," as if proud of the distinction she was acquiring, guided her skilled aviator, soared as gracefully as a seagull (which she was built to represent) over the heads of the awe-stricken crowd.

and her course not been interfered with, by trees, telegraph poles, wires, etc., the "June Bug" could have remained in the air indefinitely. The flight for the cup covered $11\frac{1}{4}$ miles. Mr. Curtiss was made not only the hero of the day, but of all the days and years to come. Previous to winning the trophy, Mr. Curtiss had made less than thirty flights. And thus do dreams sometimes come true, and the prophet gain honor even in his own country. Not by chance, however, not by the play of imagination, nor yet by graft and greed, but by energy, alertness and determination.

The next honor awaiting the young aeronaut was in the form of an invitation from Captain Thomas Scott Baldwin to come to Washington and assist in the official demonstration of his new dirigible balloon, built for the War Department. These flights also proved successful, and Mr. Curtiss again acquired fame in being the first man in America, if not in the world, to operate both a dirigible balloon and an aerodrome successfully. Captain Baldwin's dirigible balloon, in which a Curtiss motor was used, after a two-hour trial, having filled all requirements, became the property of the War Department.

The "Silver Dart."

The fourth aerodrome built by the Experimental Association was the "Silver Dart," J. A. D. McCurdy being the designer and owner. This machine was constructed with a carrying capacity for two people. The longest flight made in Hammondsport with the "Silver Dart" was $11\frac{1}{2}$ miles, as soon after her completion it was deemed advisable to ship her

to Baddeck, Nova Scotia, the home of Dr. Bell, where subsequently she proved herself an air-worthy craft, by covering 19 miles upon the occasion of her first flight and attaching to herself the distinction of being the first aerodrome to make a flight in Canada. The engine used was a Curtiss 8-cylinder, water-cooled. At last reports the "Silver Dart" was sustaining her reputation across the border.

The "Loon."

The "June Bug," winner of *The Scientific American* trophy, was later transformed into the "Loon," and successful experiments were made with her in various ways, upon the ice and over the waters of Lake Keuka, during the winter 1908-09. The mission of the association having been accomplished, it came to a close on March 31, 1909, each member, with the exception of Dr. Bell, having built an aerodrome and made one or more public flights.

The Herring-Curtiss Company.

Immediately succeeding the dissolution of the Aerial Experimental Association of America, a new company, calling itself the "Herring-Curtiss Company," was formed at Hammondsport for the manufacture of all kinds of air crafts, engines, motors, motorcycles, automobiles, and every conceivable device along those lines in demand at the present time. This company, with Mr. Herring and Mr. Curtiss, both of whom are well known throughout the aeronautic world, at its head, is said to be backed by capitalists of no less prestige than the Deering Company of New York, W. K. Vanderbilt, J. G. Astor and the Goulds. Little now remains of the old experimental station save a memory. The temporary wooden buildings first erected are fast being torn down and replaced by solid concrete. Each department is built separate from the other. A day and a night force of men, which include experts from many parts of the world, namely, America, Germany, France and Hungary, numbering nearly 200 men, are employed; and thus is established upon almost the identical hill where a little more than 100 years ago the moccasined feet of the Indian Chief Mahawtra stood, when first he

glimpsed the lake, and shouted "K-e-u-k-a" (crooked water), the only recognized flying-machine establishment in America.

The Herring-Curtiss Company comprises the following officers:

Judge Monroe Wheeler, President.

L. D. Masson, Secretary and Treasurer.

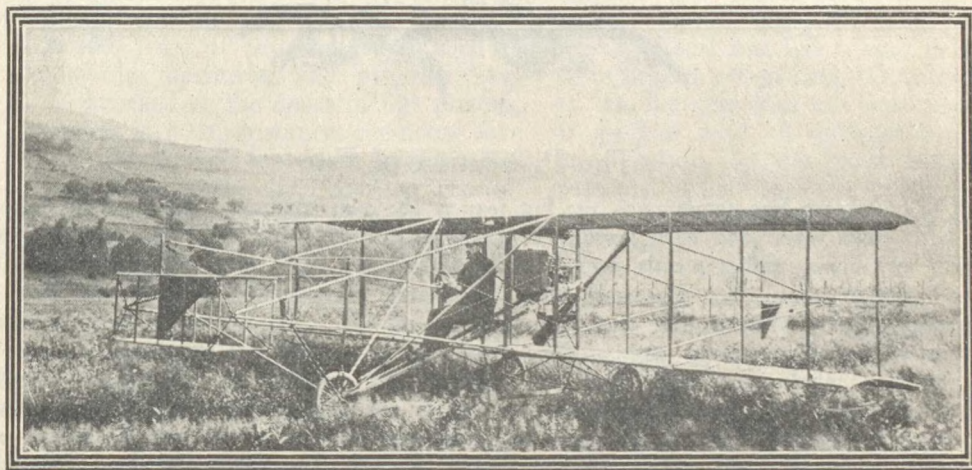
G. H. Curtiss, General Manager.

Arthur W. Gilbert, Assistant Secretary and Treasurer.

Augustus Herring and G. H. Curtiss, Vice-Presidents.

The first aerodrome to be built by the Herring-Curtiss Company was called the "Gold Bug," this machine being a special

built. The fabric of the surfaces is a rubber-covered silk, stretched to the tightness of a drumhead, over laminated ribs. The frame is of Oregon spruce. The running gear consists of three 20-inch pneumatic tire wheels, the front wheel being fitted with a brake to bring the machine more quickly to a standstill after alighting. The fore-and-aft control is effected by a movable pair of planes, two feet deep and six feet wide, placed ten feet ahead of the main surfaces. A single surface tail of the same dimensions is ten feet behind the main surface. Lateral stability is secured with the use of movable surfaces at either extremity



THE GOLD BUG.

order from the Aeronautic Society of America, sold for \$5,000. On the morning of June 7, 1909, "Gold Bug" made the most satisfactory flight ever accomplished at Hammondsport, with Mr. Curtiss as aviator. After sailing quietly but steadily through space for some time, at the manipulation of her operator, she began a series of bird-like dips and undulations, and later described circle after circle, as gracefully as a bird. "Gold Bug" was built on entirely different lines from any of her older sisters. The surfaces of this machine are superimposed and separated by posts $4\frac{1}{2}$ feet long. The width of each surface is 29 feet, and the depth is $4\frac{1}{2}$ feet, making a total lifting area of about 260 square feet. The total weight, including operator, is 550 pounds. This machine is the smallest biplane yet

of the main planes. The operator's seat is well up between the surfaces in the center panel. Behind him is the radiator, and then the engine, to which a six-foot propeller is directly attached. This engine is of a new design, four-cylinder vertical, with $4\frac{3}{4}$ bore and 4 stroke. The cylinders are cast-iron, with copper jackets, homogeneously welded in. Lubrication is by a force-feed system, the pump being built in the case and operated from the cam shaft, the oil being fed through the hollow cam shaft to the main bearings, and thence to the hollow crank shaft to the crank and connecting rod bearings, the overflow from the case returning to a separate reservoir underneath the engine, from where it is again pumped through the system.

The crank case is of special aluminum

alloy, and the shafts are of vanadium steel. The valves are both in the head and are actuated by single push rod and cam. All of the parts of the motor are made of special materials, secured expressly for this engine. The weight, including the oil and water pumps, is 85 pounds. Ignition is regulated by Bosch magneto, driven by enclosed gears. The magneto weighs $12\frac{1}{2}$ pounds. The engine develops 25 horsepower at 1,300 R. P. M.; has a maximum speed of 1,800 to 2,000, at which it develops considerable more power. The engine is built for long and hard usage, and the

bearings are liberal dimensions, lubrication and cooling system complete.

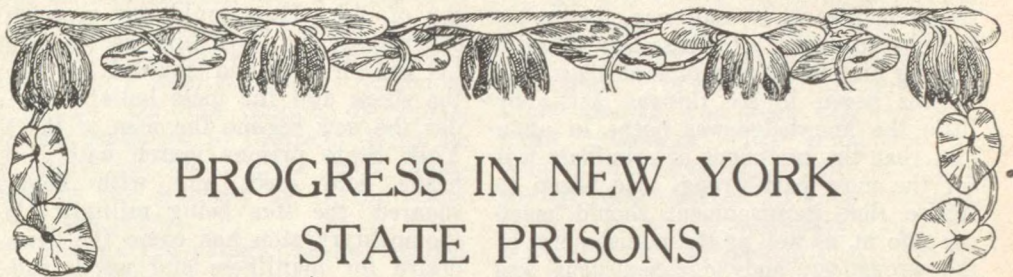
On September 17, 1908, Lieutenant Thomas S. Selfridge, while making a public flight with Orville Wright, in the latter's aeroplane, at Fort Myer, Va., met a sudden and tragic death. The breaking of a propeller, while the machine was soaring at an elevation of 75 feet, caused it to shoot downward with startling velocity, overturning as it went, killing Lieutenant Selfridge almost instantly. Mr. Wright, as all the world knows, met with serious injuries, from which he has but recently recovered.



The Prevention of Fear


WHAT we fear comes upon us; but fear is our own creation. Each person makes his own fears; and each person can become absolutely free from fear by not creating fear any more. Other people cannot make us afraid; they may do things that tend to make us afraid, but it is only when we permit our minds to take up such suggestions from without that we can become afraid. The same is true of circumstances; no circumstances can produce fear in any mind. Circumstances may impress our minds; but only when we permit; and nothing can affect us in the least until we have first given it permission to impress our minds. What comes into our minds we must voluntarily receive; we must first open the door; and we have the power to receive what we like and exclude what we like. We can close the mental door to everything that might produce fear, and open that door to those things only that give harmony, wholeness, power and joy.

WHEN we begin to live in lofty realms, not simply in fanciful visions and dreams, but in the rational contemplations of everything that is lofty, superior and sublime, we naturally concentrate our attention upon the superior. The superior thus becomes the pattern for all our thinking, and such thinking will invariably evolve superior ideas, better plans and more effective methods. Our mental faculties will become charged, so to speak, with a richer power, and we shall be able to perform our work with added efficiency. And as we become like that which we think, we shall, in this manner, grow steadily into greater power, greater ability and greater worth; we shall become stronger, more able and more competent in every way; then what can follow but success—greater and greater success?



PROGRESS IN NEW YORK STATE PRISONS

By HARRIET BISHOP WATERS.

N these days of optimism, when all mentally alert persons are reading and thinking along the lines of progress, it is good to know that optimism and progress have even knocked at the doors of our prisons, and that in many instances the doors have been opened wide that they might enter. Sweet Hope, with her smiling countenance, has also entered, sending radiant beams of light through the immense cell blocks, scattering rays of sunshine through the cells and rescuing many a man and woman from the hopelessness and mental torpor which are but too truly the portion of the imprisoned.

Just by way of contrast, let us glance backward for a brief moment at the prison life of one hundred years ago in New York State. At that time men and women who were convicted of crimes were confined in dungeons deep underground, where noisome reptiles crept over them as they lay on the stone floors of their cells, chained there perhaps to iron rings embedded in the cold and slimy walls. These unfortunates were many times beaten with clubs until they were insensible or dying, and for three hundred of the various crimes committed one hundred years ago there was a penalty of death. No idea of prison reform existed in the minds of penologists those days; apparently no knowledge obtained of the germ of good fully capable of cultivation

within the subconscious of every man and woman. For decade after decade down to very recent times, the same indifference or worse was felt toward criminals. Once behind prison bars, the transgressor of the law felt that all hope was gone. If he had been an optimist before his incarceration, he was most certainly a pessimist at his liberation, and nine times out of ten he returned to prison as soon as he could find a convenient crime which would send him there.

But with the dawn of the new era, the coming of this mighty wave of optimism and progress which is surely bound to sweep the world, has come a change within the prisons, a great and wonderful change, and the submerged tenth in the narrow cells is beginning to realize that nothing in the wide world can take away the hope which has a legitimate place and right within the mind of every man and woman on God's green earth.

Some eleven years ago, Cornelius V. Collins was made Superintendent of the prisons of New York State. Mr. Collins up to that time had made but little stir in the world. He had struggled along in life against odds, as have many other men, leading a rather humdrum existence; and while he never, like Micawber, waited for things to turn up, yet he was not marked by any great degree of push and energy. Yet within this man's mind "slumbered a genius," and this genius was to be



awakened, and was awakened, by his entering politics in a small way, finally being elected sheriff of Rensselaer County. During his incumbency of that office, Mr. Collins began to see things. Little by little the knowledge was borne in upon him that the treatment of criminals was for the most part wrong. He began to realize that imprisonment should mean the reform, as well as the punishment, of the wrongdoer, and so conspicuous was his attitude along this line that he drew the attention of Governor Black, who eventually appointed him Superintendent of the five prisons of New York State, including the Matteawan Hospital for Insane Criminals and the woman's prison at Auburn, with full power to carry out all his most progressive, optimistic and altruistic ideas of prison reform; and to-day, as the result, New York State stands almost at the head in the world in the excellence of its prison management.

And now let us see what has been accomplished. In the first place, the ventilation of the prisons has been bettered by the placing in the cell blocks of many large windows. Formerly the windows were small and few in number. Now great draughts of air and unlimited sunlight are admitted through the broad and high windows, sweeping with purifying breath into the cell blocks and taking in their train health and changed thought. The windows in Sing Sing Prison alone called for a special appropriation from the State of six thousand dollars; but in the end they will prevent the expenditure of many more than six thousands of dollars in the decrease of drug bills and of insubordination; for how can a man be ill or insubordinate when his lungs are filled with good, sweet air and his eyes with the sunshine of heaven?

Then came the abolishment of the lock-step and the shaven head, those inventions of men who saw no hope and felt no mercy for the convicted behind prison bars. A man once trained in the lock-step never lost the abominable shuffle. Upon his egress from prison he was marked by it, and in consequence he found it almost impossible to obtain employment. When a man entered prison and his head was shaven, he felt his

strength depart from him, as did Samson of old. How could any remnant of self-respect be left him as he realized his shaven poll and shuffled his way to the shops and the mess halls? But under the new regime the men of the New York State prisons march with clothed heads held erect and with shoulders squared, the step being military. With the military step has come the dawn of desire for manliness and worth and an awakening of dormant sensibilities.

The progress in the garb of the prisoners has been important. Until recently they were clothed in garments of one stripe, all prisoners being clothed alike regardless of the number of terms they had served. It was believed that there should be some distinction in this matter, and the men were placed in groups or grades. The first term men were clothed in garments of one stripe; the second term men wore two stripes; the three or more termed men wore three stripes, and the incorrigibles four stripes. The one-stripe men had the best positions, in the pleasantest shops, and received various other favors. The two-stripe men were less favored, and the three-stripe still less, while the four-stripe men were not allowed to work, but were kept in almost solitary confinement. Formerly, when the men were unclassified, the man who served many terms went back invariably each time he was convicted to his old position, and in time became a most important person, at least in his own estimation, and not at all averse to living out his life behind prison bars. A rather amusing instance illustrates this.

Some years ago, at Clinton Prison, one of the repeaters was called "Hog Pen Charlie," because his occupation at the prison was swine tender. Charlie lived very near his charges, and was as fond of them as some men are of their children. So closely did he study their points that he became quite an authority on the points of porkers. His specialty in crime was horsetheft. At every trial he would promise to plead guilty if he could have his old position in Clinton, and always the position was given him. One time Charlie stole a horse across the Canada line, was tried and convicted, and sent to Auburn prison instead of Clinton.

Being sent to Auburn was a bitter trial to Charlie, and when his sentence expired he lost no time in stealing another horse, this time in a locality near the prison of his choice. He was caught, of course, and duly sentenced to Clinton. When he was ready for work, after being questioned by the warden, he turned away toward the pens.

"Where are you going, Charlie?" called out the warden.

"Why, down to my old job, of course," replied Charlie.

"You cannot do that," said the warden, "for there are no pens nor any pigs. The pens have been torn down and the pigs sold."

Charlie hung his head. "I declare, warden," he said, "if I had known that I would never have come back." And he never did go back afterward. The classification of prisoners was calculated to make the men think, and before very long a change was noticed in the matter of men returning to prison. There was, however, still room for improvement, and after the subject had been closely studied in all its phases it was decided to remove the stripes from the clothing of the first-term men. This worked wonderfully well, so well, in fact, that it was decided to place all the men in plain gray clothing, abandoning the stripes, that mark of degradation, for all classes of prisoners, the classification being carried out by discs and by honor bars and stars. The first-term man wears on the left lapel of his gray coat a white disc. The second-term man wears a blue disc, and the third-term man a red disc. If any of these men transgress a prison rule their discs are lost, and can never be regained. The men have become surprisingly amenable to prison rules through the fear of losing their discs, in which they take the greatest pride.

The system of honor bars and stars which has been introduced has drawn the attention of penologists, not only in this country but in foreign countries as well. If a prisoner is well behaved a year his coat sleeve is adorned with a bar, corresponding in color to the terms he has served. Each year of good behavior gives him an added bar. After five years of continuous well-doing he receives a star.

At the end of ten years he wears two stars, fifteen years three stars, twenty years four stars, and twenty-five years five stars. Thus long-termed men and lifers benefit. The honor bars and stars mean privileges. They stand for the sending and receiving of more letters, of seeing friends oftener, for being privileged to have a weekly, semi-weekly or daily newspaper, to purchase articles of clothing and of food. But, best of all, the honor bars stand for additional self-respect and manliness. They are distinctly in the line of progress, and their effect is quite apparent in the various prisons of the State.

Three years ago, on a bright, sunny Thanksgiving Day, there was an unusual bustle in Sing Sing Prison. Some of the men knew what was going on, but most of the prisoners, outside of the trustees, were quite in the dark.

It is said that that which one man in a prison hears, every other man will hear within fifteen minutes through some sort of secret communication by signals; but this time it is believed that comparatively few knew what was going on. When the men were marched in to their Thanksgiving dinner there was a prolonged and audible gasp of surprise. The tables of the great mess hall were, as usual, set for twelve hundred men. There was, as is usual at Thanksgiving time, the odor of chicken in the air. The light streamed in, in generous rays illuminating the old gray hall, making it almost homelike; but these pleasant things were not what caused the gasp of surprise from the throats of twelve hundred men. The surprise came from the appearance of the tables. Every tin dish was gone. Not a glimmer of tin was to be seen, but in the places of the old and battered tin plates and cups, were shining plates of white crockery and bowls of the same material. Some of those great strong fellows broke down and cried; others, with facial muscles all aquiver, made no demonstration, but looked unutterable things. For the space of a moment or two it was as still as death in the mess hall. Then, simultaneously, from the twelve hundred throats of the men came three great rousing cheers. No number of guards and no amount of discipline

could have prevented those cheers emanating from the surcharged hearts of those men on the bright Thanksgiving Day. When the men had finished their dinner, and were marching out of the cheerful hall, it was noticed that not one face was downcast, not one sullen. Every countenance had something in it which had not been there before. Hope had again, in each man, sent out a bright living tendril that might perchance bud and blossom in God's own good time. The innovation of white crockery was in time extended to the other prisons of the State, with equally good effect.

Formerly the men in New York State prisons were marched out in squads to be bathed. They were stripped and the hose was turned on them, as if they were so many animals. Now each prison is fitted with numbers of shower baths. The men go to the baths, passing on their way a room in which are built twelve hundred pigeonholes, each receptacle bearing the number of a man. As the men pass the room they call out their numbers, and each receives a bundle of underclothing marked with his number. In the bath-house the men remove their soiled underclothing, roll it into compact bundles, and put on their clean individual underclothing, which they have received. The soiled clothing is taken to the laundry and, after being laundered, is sent to the tailoring department, to be repaired if needful. Until recently there was no distinction in the underclothing. With the individual underclothing has come the individual drinking cup on the door of the cell, both of which innovations have been in the line of progress.

Not one whit behind in the progress of reform has been the instituting in the cells of electric lights. These lights have enabled the men to read during their evenings, their books being selected from the libraries of thousands of volumes which are in all our prisons. Formerly only the long and dismal halls were lighted, and these only by kerosene or at best by gas jets, far apart; and all that a man might occupy himself with during his hours of idleness were his thoughts, oftentimes but poor companions for the man behind the bars. These days, however, as soon as the men enter their cells,

after their work for the day is finished, the lights are turned on, and the bare whitewashed walls reflect the rays, and, instead of darkness and gloom, there is light and cheerfulness.

In all this steady march of progress, however, nothing has been more beneficent in effect than the schools. To be sure, years ago, in many of the prisons of this country, schools were instituted. There might not have been much system about them, but they undoubtedly accomplished something toward prison reform. In New York State, within the past two years, a regular school system, under the State Department of Education, has been instituted. These schools are in all the prisons, and hundreds, yes, thousands, of men have been benefited by them. The teachers are prisoners who have had the advantages of high-school education. These teachers are under the supervision of citizen teachers, who must be specially prepared for the work, and the whole, as stated, is under the direction of the State Department of Education. The schools are open six days in the week, twelve months in the year. A course of study has been mapped out covering about two years' work. It includes the rudiments of the first six years' work in the public schools, the English language being made the fundamental subject of study. Oral speech, reading, spelling and writing, the tools of knowledge and action, stand first and foremost, and receive special attention from the beginning to the end of the work. The first aim is to banish illiteracy from the prisons; to give the prisoners ability to utter a simple English sentence intelligently, to read one with comprehension, and to write down what he knows with proper spelling, capitalization and punctuation. Not only, however, may a man study these fundamentals, but he may, if he is so disposed, study the languages, he may learn mechanical drawing, bookkeeping, science, economics; in fact, whatever he will. It is most interesting to visit the schoolrooms, where men from seventeen to seventy years of age may be seen, all diligently studying; perhaps working sums on the blackboards, writing sentences to parse, or spelling out, in labored fashion, words of one or two syllables. Fully twenty-five national-

ities are represented in each prison school.

Most criminals, when first imprisoned, are absolute illiterates, unable to read or write. Some of them cannot speak a word of English when they enter. But how they progress! One of the men recently liberated from one of the prisons was a Tuscarora Indian, a mighty bad man when he went into prison, without the barest rudiments of an education. In three weeks' time he could read and write words of one syllable; in six weeks his progress was most marked, and in four months the Indian had acquired an astonishing amount of knowledge, and was able to write in characters that were as beautiful as fine engraving. He went out of prison a thoroughly reformed man, able to take a good position and earn his living as an honest man. One man, a negro, developed an aptitude for learning the languages, and in two years' time had practically acquired four languages. This man also went from prison thoroughly reformed, quite able to take his place among the workers of the world. A number of men during the past year who have passed through the prison schools have taken remarkably good positions in the world and are now earning large salaries.

At the blackboards in the school rooms may often be seen a Chinaman, an Italian, a negro, an Irishman, all intent on learning, absorbing hungrily all the knowledge possible to obtain. Very often funny little incidents will occur, which the pupils are allowed to enjoy and laugh at. One day a teacher was endeavoring to induct a great black fellow into the mysteries of fractions:

"Now, Jim," said the teacher, "if you had three-quarters of a melon and gave away one-quarter, how much would you have left?"

The day was warm, and Jim's mouth watered at the thought of melon.

"Now, Boss," he deprecatingly said, "tain't jess fair to speclate on millon, but I jess know dat if I had tree quatahs of a millon I'd have tree-quatahs left, cos I jess done cudn't give any of it away."

Such incidents make the pupils all kin, and a general good feeling prevails. During the past two years there have gone through these prison schools up-

ward of three thousand men, many of whom have been thoroughly reformed and well started along the road of progress. "A genius is slumbering in the subconscious of every mind. This genius can be awakened." How true this has proven in the minds of many convicts who have been touched by the progress of reform in New York State prisons!

Up in the Adirondacks, where the pine tree sends out its life-giving, spicy aroma, where the breezes blow fresh all the year through, where the glinting waves of Lake Champlain may be seen in the distance, is the great Clinton prison. It is a well-known fact that men confined behind prison bars are prone to that scourge of mankind, tuberculosis of the lungs. The close confinement, bad air, brooding thoughts, all tend to bring about diseased conditions, and many is the poor fellow who succumbs. It was noticed that if a man suffering from the incipient stage of tuberculosis happened to be transferred to Clinton prison, he was apt to recover in a short time. Those whose minds are bent on progress notice and digest everything that comes within their mental vision. They put two and two together; they reason out things. Thus it was with those in authority in the prison management of New York State. When they saw some of the remarkable recoveries from incipient tuberculosis at Clinton prison, and that the climate there was favorable for this class of prisoners, they caused a hospital to be erected there, and the men of all the prisons who were found to be suffering from tuberculosis were sent there. These men were placed in wards lined with windows which were always open, and they were given the right sort of food. The results have been most satisfactory. At the present time it is impossible to find an advanced case of tuberculosis in the prisons of New York State except as found under special treatment awaiting transfer to Clinton prison. Not only is the prison population relieved of this great threat, and the incapacitating influences of this plague upon the working population removed, but the greatest benefit has come to the men discharged from prison.

It is important that a man when he is discharged from prison be able to earn

his own livelihood, and it is essential that he cease to be a threat to the people of the community to which he goes; and although it is impossible to cure all cases of tuberculosis which occur in the prisons of the State, even men who are hopeless cases can be taught a knowledge of the disease and how to care for themselves and thus reduce to a minimum the danger of infection. Within the short space of ten years the death rate from tuberculosis in the prisons of New York State has been reduced seventy-seven per cent. Right in line with this progress has been the attention given to the teeth of the men, to their eyes and to their ears. Both mind and body have been looked after, and healing, both mental and physical, has been provided.

Not only have the men of New York State prisons been looked after in this progressive reform, but the women as well. Only about one hundred convict women occupy the woman's prison, but these women have had their share of all the progressive reforms. The most beneficent reform for the women has been the giving to them by the State of the privilege of working out of doors on the farm. There they may grow flowers, the beauty of their petals having eased many a heart-sick soul; or they may cultivate succulent vegetables for the gratification of the inner woman. Thoughts are things, and when these women have entered prison they have been on the verge of despair. The outdoor life has, however, in many cases entirely changed their mental vision and they have emerged from prison thoroughly reformed and in their right minds, with hope upspringing in their hearts, filled with kindly feelings toward their fellow-beings, able and anxious to take their part in the world.

The indeterminate sentence and the parole laws of New York State, all recently instituted, are right along the line of progress. Under their operation a man need no longer be hopeless. He may bring all his mental energies and powers of concentration to bear upon his special problems, perfectly certain that he will have the opportunity to work them out.

The State itself is quite in line with the absorbing and vital ideas of progress which are now being given out by men and women who are studying into the deeper things of life, and it is willing and anxious that the prisoners of the State institutions be given their chance for liberation, not only of body, but of mind.

New York State has now granted an appropriation of several millions of dollars for the erection of a prison building that will be a fitting place in which to carry on progress in prison reform. The prison will be located near a lake of living water, in the heart of the mountains. One of its features will be white enameled cells, with walls absolutely impervious to vermin and other unpleasant things; but far ahead of these in importance will be the solitary cells for the occupancy of men who are incorrigible and insist upon breaking the prison rules. Each of these cells will have its individual yard, and each will be as light and cheerful as possible. This is an evolution from the dungeons which still exist in most of the prisons of the country. When an incorrigible is placed in one of these solitary cells, he will be given an opportunity to live most of the hours of daylight in his own yard. He will be given a chance to think in God's own sunlight.

And how about the visible results of reforms instituted in the prisons of New York State? In ten years we have seen the percentage of men returning to prison fall from sixty-four to twenty-one per cent. The average convictions for felony pro rata to the population has declined nineteen per cent. The death rate has dropped forty per cent, and the percentage of illiterates in prison has declined from sixty-one per cent of the prisons' total population to below three per cent.

Verily, eternal progress is the watchword in the prison management of New York State, and who shall say that in due time our prison population may not be entirely obliterated, wiped out by the beauty and wisdom, the poise and power of the new science of living, the magnificent optimism which is now being taught by leaders in mental realms?



MEN AND WOMEN WHO ARE MAKING GOOD

Little Sketches of Big Personalities

George Bruce Cortelyou

IN the president's chair of the Consolidated Gas Company of New York there sits a man—usually ten hours a day—who has done more things, perhaps, than any other man in the United States to-day. Not more things only, but more big things. His business associates call him a sphinx and "The Silent," and in this they are quite correct, for George B. Cortelyou—the man—has lost few words. He does not talk unless he has something to say and then he goes straight at his point and stops. Also he is credited with the power to condense a column and a half of descriptive matter into six short words—expressive, forceful and snappy. Likewise it is set down to his credit that he never forgets, proof of which is found in a tale told of him on that dreadful day when President McKinley was shot down at Buffalo. It seems that Cortelyou, when practicing as a stenographer, attended a course of medical lectures in the New York Hospital, not because he wanted to be a doctor but because he desired to see how good a stenographer he really was. This was his only experience in medicine or surgery. Twenty years later he stood at the side of the wounded President, the only cool man there, and, recalling the things he had heard in the lectures, he decided on a course of action that amazed the dis-

tinguished surgeons who had been called to the home of John G. Milburn, where McKinley lay. Mr. Cortelyou had sent for the surgeons and when they came he looked them over with perfect coolness.

"Gentlemen," he said, "I do not know one of you. I have sent for Mr. Milburn and will hear what he says."

Mr. Milburn came and assured Mr. Cortelyou the surgeons were the best in the city.

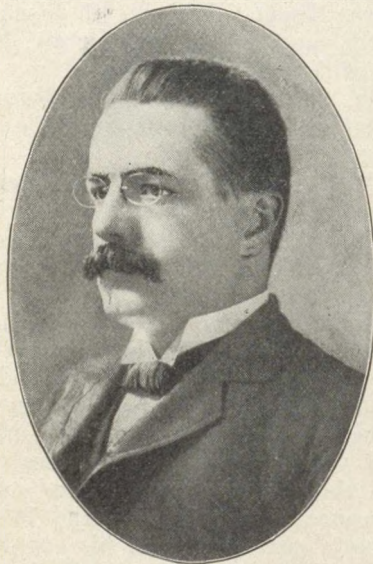
"Well, gentlemen," said Mr. Cortelyou, "go ahead and operate."

"Now?" asked the surgeons.

"Certainly now," replied Mr. Cortelyou. "Is it not better to do it at once?"

"By all means," said they, and they went ahead there and then and performed the operation. Mr. Cortelyou had based his action on the united opinion of the eminent surgeons at the New York Hospital years before, that in cases of that kind the operation should not be delayed an unnecessary minute. And it is this memory, combined with his cool-headedness and attention to detail, that have made Mr. Cortelyou a man to be depended upon in all emergencies. No one could have been more shocked to see his chief shot down than was Mr. Cortelyou. Yet he was a man of iron. He was asked afterward how it was that he was able to keep his nerve. "There was nothing else to do," he replied. "If a man had lost his head he would have been of no use."

Mr. Cortelyou was born in the lower east side of New York City, and after going through the public schools he was graduated from the Hempstead (L. I.) Institute when he was seventeen years old. But not yet satisfied with his education, Mr. Cortelyou went to the Normal School at Westfield, Mass., where he was graduated in 1882. It was then that he decided to shift for himself. His first dollar was earned as a tutor of literature in the Cambridge (Mass.) High School. He then took a course of music in the New England Conservatory of Music, after which he returned to Long Island and taught school at Hempstead. But as these positions held little prospect of advancement in his mind, Mr. Cortelyou decided to strike out anew. So he went to the Walworth Business Institute and took a course in stenography. It was after graduating from this school that Mr. Cortelyou discovered an opening for a stenographer in the office of Colonel Edward S. Fowler, collector of the Port of New York. But Mr. Fowler, having thirty ap-



GEORGE BRUCE CORTELYOU,
President of the Consolidated Gas Company,
New York.

plicants, decided to hold a competitive examination. Cortelyou took it and won. Then he made good. Mr. Fowler recognized this by making him his confidential secretary. In this position Mr. Cortelyou remained until Mr. Cleveland became

President in 1885, when he resigned to become a general law and verbatim reporter in association with James E. Munson, the author of the Munson system of phonography. Then came a promotion which not only meant an increase in salary, but one which presented a more promising field for advancement.

He was appointed private secretary to Estes G. Rathbone, the Fourth Assistant Postmaster-General, and went to Washington to enter upon his duties in July, 1891. Two years later he served as acting chief clerk and then as acting Fourth Assistant Postmaster-General. After the change of administration in 1893 Mr. Cortelyou resigned, but the new Fourth Assistant Postmaster-General—Robert A. Maxwell—refused to accept it. On the contrary, the Postmaster-General himself, Mr. Bissell, soon found himself calling for "the young man in Mr. Maxwell's office." It was soon after this that President Cleveland mentioned to Mr. Bissell that there was a vacancy in the White House stenographic force. Bissell at once recommended Cortelyou. At the White House Cortelyou again made good and soon endeared himself in Cleveland's favor. He became, in fact, so much a fixture that President McKinley retained him as his assistant secretary. Then came the resignation of J. Addison Porter, and Cortelyou, as all had expected, took his place as the President's secretary. In this position he became almost a lobe of Mr. McKinley's brain—so well did he understand the desires of the executive. The death of Mr. McKinley brought Cortelyou before the limelight more than ever and made President Roosevelt especially indebted to him during those trying moments. As a result he asked Mr. Cortelyou to continue as secretary to him, but so valuable did his services become that he was soon to recognize the masterful ability of his confidential clerk. The next step in the Cortelyou ladder to success was his entrance into the Roosevelt cabinet, with his appointment as secretary of the newly created department of Commerce and Labor. Next he was picked by President Roosevelt to lead—as chairman of the Republican National Committee—the presidential campaign of 1904. Without any material knowledge of politics

Cortelyou again fitted himself to his task and made good, a landslide being the result.

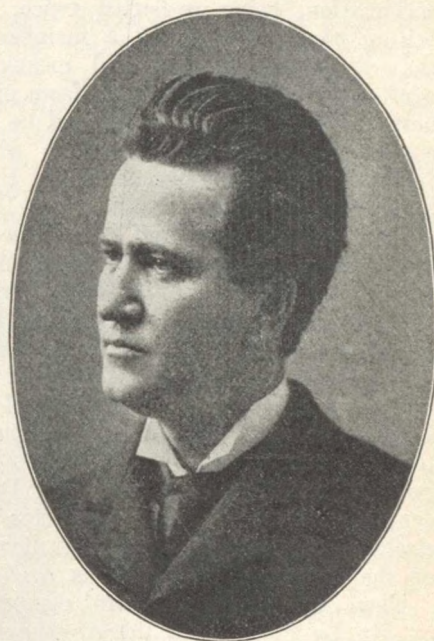
Mr. Cortelyou next tackled the office of Postmaster-General, where his remarkable powers of organization were displayed in a most effective manner from the start. Two years later, and only seven years after he had been holding the subordinate office of secretary in the White House, he was made secretary of the Treasury. His wisdom in the handling of the panic of 1907 is too recent history to need comment, for Cortelyou again—in that test of tests—made good. In four years he filled three cabinet positions, creating one and reorganizing another, had conducted a national political campaign and had charge of the greatest national treasury of the world. What a record for four years! It is well called by a Washington statesman "a meteoric progress that is without parallel in the history of the Republic."

To-day he is again making good. At the head of the Consolidated Gas Company of New York, with an annual salary several times that of a cabinet officer, this man has assumed in one gigantic bound a position at the top rung of the nation's business. And yet twenty-six years ago Mr. Cortelyou was a stenographer at a salary of \$2.75 a day. It is all easy to him; he has no explanation, no rule to offer. Honesty is the chief ingredient, however, of his work. Honesty to his employer—and honesty to himself.

Robert M. La Follette

IF a man is great for the enemies he has made, Robert M. La Follette—senator from Wisconsin—must be a Cæsar of the times. In Wisconsin they are glad—many of them—that he is in Washington, but in the national capital they are sorry—still more of them—that he ever left Wisconsin. It must not be construed from this, however, that Senator La Follette is devoid of friends, for he has about sixty million of them. But it is merely from his enemies that we are judging him. At the present time both his friends and his enemies have increased decidedly, for La Follette has been saying

things and doing things for the past few months. A good part of Washington and nearly every part of the nation has been



ROBERT M. LA FOLLETTE.

stirred by his deeds, for the Wisconsin senator has had the stamina to stand up and fight for his convictions. He has proved again the virility in his make-up and—politics aside—he is more than ever the man.

Robert Marion La Follette was born in Primrose, Dane County, Wisconsin, on June 14, 1855, and is a descendant from the old Huguenot family which settled in that county over a century ago. In 1873 the family moved to Madison and two years later Robert entered the state university. As a student he took an active part in the debating societies of the institution, and in his senior year won the interstate oratorical contest, meeting contestants from six other states. His oration was entitled "Iago," and the production was declared to be a masterpiece. In 1879 he graduated, and six months later passed an examination for admission to the bar. In the fall of 1880 he was nominated and elected district attorney of Dane County, and was renominated and re-elected in 1882. In 1884, when only 29 years old, he was elected to represent the Third Wisconsin district in

Congress, being the youngest man in the Forty-ninth Congress. Three times—following this—he was renominated by acclamation, being re-elected twice, but failing of the third. As a member of the committee on ways and means he drafted the tariff schedules on farm products, tobacco, linen and silks, and he was a member of the sub-committee which framed the iron and steel schedule. Upon his retirement from Congress in 1890, Mr. La Follette re-entered the practice of his profession in Madison, as senior member of the firm of La Follette, Harper, Roe & Zimmerman. This partnership was dissolved in 1894, and he has since practiced alone. But the practice of law was too inconspicuous for a man of the La Follette caste, and the cry for public life was constantly sounded in his ear. So well known had he become that President McKinley—immediately after his election—offered him the comptrollership of the treasury, but this was declined.

Then came two unsuccessful campaigns by Mr. La Follette for the governorship, in which, however, he made memorable fights, that still linger in the minds of Wisconsin politicians. But in 1900—after being nominated by acclamation—he was elected to the governorship by a plurality of 103,745. It was the largest plurality that had ever been rolled up for a political candidate in Wisconsin, and so La Follette had seemingly made good. Then came the famous era of La Follettism that carried all before it, and made his policies known from coast to coast. He led the movement to nominate all candidates by direct vote, which was adopted by Wisconsin in 1904, and the similar one to tax railroad property by the same system, and at the same rate as all other taxable property—a law that was passed in 1903. And there were many other laws, too—radical in nature, but sound in principle—which La Follette backed. But throughout this time—and he served three consecutive terms in the governor's chair—La Follette was aiming for higher things. He had possessed an ambition to go to the national senate, and he viewed all else as but stepping-stones toward the realization of this aim. And so, in 1905—at the height of his popularity in Wisconsin—he determined to

seek the office which he had so long desired. He announced his intention of getting it, and set to work. The result was that on January 25, 1905, Robert M. La Follette was elected senator from Wisconsin. In the Senate he at once became a figure of national importance and jumped into a leadership that only a few have dared to assail. Always he took the side of the common people and championed their cause. He cared not how high he hit or how hard the blow might be, so long as he was assured, himself, that he was in the right. As an orator he has few equals, and surely no superiors, while his magnetism carries all before it.

So prominent, indeed, did La Follette become in the senate chamber that a movement of great breadth was started to elect him to the presidency, to which office he was nominated a year ago. During the past few months—at Washington—his speeches against the tariff measures have had an electrifying effect. In stature, La Follette is a reminder of Napoleon, being short, erect and strong. But in rearing and general character, his life follows closely that of Lincoln, for La Follette—like Lincoln—was born in the most rural of log cabins. He was born—like Lincoln—with ambition in his mouth in place of the silver spoon. And around this ambition he has built his career. Some say he will be president four or eight years hence. Why not? Where has he yet failed?

Miss Lucy Page Gaston

IT is something to be able to go before a State Legislature and, in the face of the influence exerted by powerful moneyed interests, win a triumph. And it is because such a victory takes courage to accomplish that Miss Lucy Page Gaston had been brought prominently before the people of Illinois this spring. Miss Gaston is the possessor of a "hobby," if a thoroughly commendable ideal may so be termed, but what is far more she has had the fortitude to fight for her convictions. As a result, a few months ago in the Illinois Legislature, there was passed a bill which will practi-

cally put an end to the use of tobacco by minors in the State of Illinois. There have been other bills tending toward this end passed in the Illinois Assembly, and Miss Gaston has been back of them all. But without exception each and all of the preceding ones have been held unconstitutional when passed on in test cases before the courts. It would have been discouraging to most persons to have such a result occur after months and months of patient work. But with Miss Gaston such a thought has been farthest from her mind. Every defeat of her plans has only meant a determined smile and a renewed effort. And as a result the bill passed last month seems, at last, to have carried with it a real triumph, for the best legal talent in Illinois is agreed that all legal objections have at last been overcome.

Miss Gaston has been termed a "reformer," and in the best and not the narrow sense of the word it is exactly descriptive of her. But she is the kind of reformer that commands respect and admiration even among those out of sympathy with her plans. She is the sort that backs strong convictions with an infinite amount of courage and energy. And she is the kind also that invariably wins.

Miss Gaston is a believer in good. She believes in the good of mankind and sees the bad only in so far as it is necessary to recognize its existence. She is also an optimist of the extreme school. When she lectures against the various evils that she has tried to combat she appeals to these sides of her audiences. She believes in uplifting by bringing uplifting influences to bear and she declares that much of her success is due to this idea. And possibly it is this belief and this method that has enabled Miss Gaston to influence in her favor the legislatures of so many states,

for there are few communities in which she has not worked. Ninety per cent of the anti-cigarette laws in force in the United States to-day are the direct result of her untiring labor. There is probably not a state capital in the Union to-day in which Miss Gaston is not known, liked and respected.

Born in Delaware, Ohio, in 1860, Miss Gaston's parents soon removed to Illinois, settling in Lacon. It was here that she

received, in the public schools, her initial education. Following her graduation from the Lacon schools Miss Gaston matriculated in the State Normal schools and almost at once became intensely interested in school work and school conditions. She became in fact a much-sought authority on all of the conditions tending to the betterment of school life and morality. To the effect of tobacco upon minors she early gave her attention and in a quiet way did what she could to prevent its use. It was while engaged in this work that she became a member of the W. C. T. U. and was associated with Miss Frances Willard. Miss Willard quickly recognized in Miss Gaston the qualities for which she sought



MISS LUCY PAGE GASTON.
Ninety per cent of the anti-cigarette laws in force in the United States to-day are the direct result of her untiring labor.

and the two soon became fast friends and hearty co-workers. It was during this period that Miss Gaston first became widely known when she led a long series of test fights in the Cook County (Ill.) courts on the validity of the prohibition laws of Harvey, Ill. Miss Gaston was, at this time, editing the Citizen, a periodical of Harvey, and used its pages to further her crusade. She made it, in fact, an organ of recognized power and influence in the state. In the latter part of the nineties Miss Gaston took up the crusade against the use of tobacco by minors in the public schools of Chicago, and again received commenda-

tion from all sections of the country. It was then that Miss Gaston conceived the idea of forming the Chicago Anti-Cigarette League, which has been a factor of importance in the improvement of the Chicago schools ever since. She was also instrumental, among others, in the formation of the Chicago Boys' Club, an organization whose work has become world-famous, and which has accomplished much in placing around the boy worker the atmosphere and influence of home life.

The work of Miss Gaston in Chicago soon became recognized in the East, and many cities sent out calls for her aid, to which she always quickly responded. In New York City she accomplished great work and was highly commended by the school authorities. The National Anti-Cigarette League was one of the outcomes of her campaign and Miss Gaston was elected to the vice-presidency of that organization. Fear is a trait unknown to her, and Miss Gaston has often, at great personal risk, conducted numerous raids against illegal saloons, gambling resorts and cigarette dealers in Chicago and elsewhere. But the crowning achievement of her active career was the victory of this spring which has apparently at last given to Illinois a binding law, in so far as the sale of tobacco to minors is concerned. Miss Gaston is still a resident of Harvey, Ill., and is the editor of the Boy Magazine and other reform publications.

Mrs. Russell Sage

IT IS not every woman who could start out at the age of seventy-seven and make good. And neither is it every woman who—after a life of ease and comfort—could find the stamina to go out into the slums and seek out those of the poor deserving of help. Neither is it every woman who—even if she had it—could give away \$20,000,000 in three years. Many a man has faced the problem that a woman is solving to-day and many a book and many a play has been written around it. And yet Mrs. Russell Sage, at the ripe age of eighty-one, is answering them all.

Three years ago—in July of 1906—

there passed from his earthly cares Russell Sage, American financier. Mr. Sage had been a conspicuous though eccentric figure in America's business life, and many an unkind thing had been said about him. Even the stigma of being a miser had more than once been almost thrust upon him, for Mr. Sage and charity were not close friends. In his whole life he had been known to have contributed but \$50,000 to charitable purposes. And so it was not altogether surprising that in his will his vast fortune of \$70,000,000 should have been left to the widow in entirety. Neither was it surprising that the daily press of the day should have dwelt at length on the fact that "not one cent" of Mr. Sage's money had been left to charity.

But, in harping upon this discordant note, the press of the land overlooked, for the moment, the widow of Russell Sage. It overlooked the kindly heart and generous nature that had made her beloved by her friends for a score of years. It overlooked the fact that Mrs. Sage was a soldier's daughter and had a soldier's heart. And in overlooking these things it imagined that some place—in a secluded, safe spot—the great Sage pile of gold would remain undisturbed.

But the press and public had not long to wait to witness a calm, practical denial of their belief. Mr. Sage had hardly been given his burial rites before the widow—who had comforted, loved and respected him for thirty-seven years—undertook the gigantic task of proving to the world the real facts that undermined the Sage will. At the time of Mr. Sage's death the widow was seventy-seven years of age. A fortune of \$70,000,000 had been placed directly into her hands to do with as she would, and so—as the husband and wife had been one—it was but natural that she determined to carry out the wishes she knew him to have held. She determined to administer his estate as she knew he would have administered it had he lived, and so, modestly and patiently, she set about the task of justifying the memory of Russell Sage. She had been active all her life, interested in philanthropic work, in educational work, in church work, and New York University had conferred on her the degree of mas-

ter of letters years before her husband's death in recognition of her services to the cause of education. She had been a hard-working woman in these various interests, and now, when she had earned quiet days, at an age when even the older of the poor lay down their tasks, she took up the greatest labor of all, the task of demonstrating to the doubting world the high purpose of the husband whom she had loved.

And so before Mr. Sage had been dead six months she had given away a solid million of his golden dollars! Since that time she has given away twenty millions more and as yet, she herself has said, her task is but begun. Two of these gifts—while not as large as others—have been illuminative. In the first of these Mrs. Sage doubled her husband's bequests to his heirs, distributing, in this work, \$650,000. In the second she gave to the poor of New York \$60,000 worth of rhododendrons which have been placed in Central Park—making a solid mile of rainbow-tinted flowers that have changed the slopes of the city's playground into a feast of beautiful color. And strangely enough in this gift Mrs. Sage has spoken with eloquence her sincerest belief. She believes in the law of inspiration as the best aid to the poor. In the giving of dollars to the less fortunate Mrs. Sage is not in sympathy, for she believes that the poor should be taught to help themselves. But she believes, nevertheless, in placing before the poor the inspiration and the means with which this end may be reached. In the giving of the flowers she has wished—firstly—to teach the poor the meaning of the word beauty and the significance of nature, while in her wonderful gifts to education she has desired to teach them the importance of progress and a desire for enlightenment. She is willing to help to the extent of \$70,000,000, but she is not willing—except in cases of absolute want—to give one cent. She believes in men and women, not in helpless beggars. And she is willing to do her best to make these men and women.

To the cause of education Mrs. Sage has contributed about \$3,250,000. Of this money about one-quarter has gone into

the erection of school buildings, the remainder being in the form of perpetual endowments approximating an annual income of four per cent. To religious enterprises she has devoted nearly \$5,000,000—the greater part of which has been utilized for the furtherance of the Young Men's and Young Women's Christian Associations. But standing above these there is the Russell Sage Foundation for the improvement of social and living conditions in the United States, to which she has devoted \$10,000,000, it being the most largely endowed single charity of any in the world. In this again Mrs. Sage has sounded the creed upon which she works, which she herself has stated in her deed of gift: "The Foundation will not attempt to relieve individual or family need. Its function is to eradicate as far as possible the causes of poverty and ignorance, rather than to relieve the sufferings of those who are poor and ignorant. The sphere of higher education, that served by our universities and colleges, is not within the scope of the Foundation." Without going into the object of the Foundation too deeply, it is enough to state that the endowment calls for these things—better health, greater cleanliness, practical knowledge and greater prosperity per capita. It is but another evidence of the far-sighted charity of this wonderful woman of eighty-one.

Mrs. Russell Sage is a daughter of General Slocum and was born in Syracuse, N. Y., September 28, 1828. She is a Puritan and a school teacher, a steadfast New Englander by inheritance and desire. She is sensible, sane to her finger tips and never for a moment loses her sense of humor. She has always been the exponent of common sense. In her early years she—herself—worked, that her own living might be made, and it is her pride to-day to point back to that time. She lives in the most modest of styles, rises early and works many hours each day. Usually she opens her own mail and answers personally many of the thousands of appeals she receives. For everyone she has a kindly smile and a welcome word.

This, then, is the woman who, at seventy-seven, undertook the task of making good—handicapped, though she was, by

the \$70,000,000 pile of Russell Sage's gold. A woman who—in three years—has earned the title of "the greatest woman philanthropist." And this at the age of fourscore years and one.

Major-General Leonard Wood

IT is a noteworthy task to become a self-made business man, but it is a greater task to become a self-made soldier. In times of war, men rise rapidly on the military ladder, but in times of peace the red-tape coincident to promotion is likely to hold them back. In this, Major-General Leonard Wood has proven himself a notable exception. He is, in fact, a record-breaker. Eleven years ago he was a practicing army surgeon, being then thirty-eight years of age. And, being one, he was out of the line of promotion. No other army in the world, it has been said, ever made a doctor into the highest of its generals. And yet on June 2 Leonard Wood became the ranking officer of the United States. His rise has been unparalleled, and, more than that, it ushered into the service a new army policy—the policy of promoting by selection, instead of promotion by routine. Wood had been jumped—time and again—ahead of his superior officers, and while the new policy had naturally displeased many, it seems to have become a convincingly good one in the minds of three presidents—McKinley, Roosevelt and Taft—or at least a convincing one so far as General Wood has been concerned. In him, therefore, we behold, not only a conquering hero, but a new and conquering policy as well.

The rapid rise, or, better, dash, of General Wood up the ladder to honor and success has been almost too replete with wonderful achievements to bear of much comment. It is, in fact, one of those careers which stand out best through narration alone. When General Wood became colonel of the Rough Riders, in May, 1898, he was absolutely unknown outside of his circle of friends in the army and in Washington. But his name was soon sent back from the island of Cuba as one of the real heroes in that

rather quiet war. His dash at Las Guanimas made him a brigadier-general in the volunteer army, and the fight at San Juan Hill, in which he commanded a brigade, brought him the governorship of the city of Santiago. Here his remarkable activities in the quelling of riots, the feeding of thousands of starving Cubans, in street cleaning, in fumigating, in battling with disease, made his fame even in Great Britain, and brought him the governorship of the entire province of Santiago, together with an appointment of major-general, which he held until the army was reorganized, when he became a brigadier-general. Then came his appointment to the governorship of the entire island of Cuba, an appointment that gave Wood the chance he needed to show to the world his real caliber.

But before the meteoric career of General Wood is gone into further, it is interesting to go back and see the real stuff upon which it was built. Wood traces his lineage in America back to Peregrine White, the first-born child of Plymouth Colony. His maternal ancestry first appeared in the New World in 1634, and one of them, John Nixon, commanded a company at Lexington, a regiment at Bunker Hill, and a brigade at Saratoga, setting an example in rapid promotion for his future great-grandchild to follow. So it can be seen that General Wood is an American if ever a man was. His father was a New England country doctor, who served and was seriously wounded in the Civil War, remaining an invalid for life.

Young Wood spent his early days in Cape Cod, went to school in a Middleboro academy and went to Harvard to get a medical education. There he got hospital work, his first medical practice being in Boston. While at Harvard General Wood earned fame as an athlete, and it is related that he could outrun, out-box and out-fence his friend Theodore Roosevelt. But in the private practice of medicine General Wood did not remain long. His strong body urged him more and more into the outdoors, and he finally determined to go West. It was in 1885 that, having passed a brilliant examination for military surgeon, he got

an offer to go out West as civilian surgeon with the army at a salary of \$100 a month. Wood fairly flew at the chance and left immediately to join the command of General Lawton, which was, at that time, about to undertake the capture of Geronimo and his band of Apaches. It was during this chase that Wood won over completely the admiration, friendship and respect of General Lawton. He stayed with him, day and night, throughout the campaign, and at its conclusion was recommended to the department commander by Lawton for his "courage, energy and loyal support."

Two years later he was again praised extravagantly by Lawton for his work, an item of special interest, owing to the insinuation that the head of the army owes his rise to Presidents McKinley and Roosevelt. Until 1895 Wood remained in the West fighting the Indians, that now and then rose up in revolt. Then he went to Washington, where he became a regular attending surgeon at the White House. It was at this point that he met President McKinley and renewed his friendship with Roosevelt, who was then assistant secretary of the navy. When the war with Spain broke out, this friendship had ripened to such an extent that Roosevelt and Wood decided to get in together. They organized the Rough Riders, and Wood—on Mr. Roosevelt's solicitation—was made colonel. In the thick of the fire at San Juan Hill Wood again made good, and his successful administrations, that finally terminated with the governorship of Cuba, proved his capacity beyond question. Then Wood was sent to the Philippines, and again he won the admiration of the world for his work there. Since his return he has been winning plaudits in every task to which he has been assigned. Roosevelt—calling him "the greatest soldier since the Civil War"—threw down tradition and sent him higher. The Senate confirmed the boosts. And then Taft—also impressed by the wonderful character of the man—kicked over more traditions, and made him commander-in-chief of the United States army. And such is the rise of Leonard Wood, soldier, doctor and scholar, in the last ten years.

Jacob MacGavock Dickinson

IT is usually a sign of true worth when a Republican President chooses a cabinet officer from the South. And it is also a mark of distinction to be the man thus chosen. For this reason it is not surprising that the appointment of Jacob MacGavock Dickinson to be secretary of war in President Taft's cabinet elicited comment. Neither is it surprising that Mr. Dickinson should have had focused upon him the bright spot in the political limelight.

Mr. Dickinson is another of the lawyers with which President Taft has built his fortress for the coming legal battle against the "trusts"—and he seems to be an especially important factor at that. Secretary Dickinson is a big man. Big physically as well as mentally. He stands 6 feet 3 inches tall and weighs 270 pounds. As a boy he was a soldier in the Confederate army and saw service in many of the campaigns of that war. Then he took up the practice of law and made a reputation so great that the South was found too small to hold him. He came to Illinois and assumed one of the highest legal positions within the state—being made general solicitor for the Illinois Central Railroad. And here again he sent out his name—involuntarily—throughout the land as one of the great lawyers of the day. His very bigness seemed to carry all before it. But behind his legal ability there always stood his wonderful business capacity and constructive ingenuity, which made him at once a man to be desired. And so it is not surprising that President Taft should have hit upon Mr. Dickinson as the man of men best suited to represent, in his cabinet, the great South.

Mr. Dickinson was born at Columbus, Miss., on January 30, 1851. His early education was received in the southern free schools, after which he matriculated in the University of Nashville. From this institution Mr. Dickinson graduated in 1871 with the degree of A. M. Then he went to Columbia College in New York and took up the study of law, graduating from this university with high honors. But Mr. Dickinson desired to

be thorough, if nothing else, and so—still dissatisfied—he sailed for Europe, where he continued his legal studies at the University of Leipzig and in Paris. Then followed an extensive European trip, in which Mr. Dickinson applied himself studiously to every question that came under his observation. In 1874 he returned to America and was admitted to the bar. He was at once a success and gained an enviable reputation throughout the South. Several times his legal ability was acknowledged by the state itself when Mr. Dickinson was appointed to serve, by special commission, on the Supreme Bench of Tennessee. In this capacity he



JACOB MACGAVOCK DICKINSON.
The New Secretary of War.

served until 1895, when he was appointed assistant attorney-general of the United States. In Washington Mr. Dickinson became greatly liked, and his ability was soon recognized as of unusual caliber. But when the change of administration came that took Mr. McKinley into the White House, Dickinson resigned and returned to Nashville to resume the practice of law. His ability, however, was quickly appreciated by the Louisville & Nashville Railroad, and he was then appointed attorney-general for that corpo-

ration. In this position Mr. Dickinson earned wide fame and was mentioned on several occasions as an available candidate for governor. But—aside from serving once as a presidential elector—Mr. Dickinson preferred to remain clear of politics.

As a result he soon was offered one of the highest legal positions in America—that of general solicitor of the Illinois Central Railroad. This position he accepted in 1899, removing to Chicago, and entering at once into the civic life of the western metropolis. But it was not until 1903 that Mr. Dickinson earned his greatest right to fame. At this time he was appointed as counsel for the United States before the Alaskan Boundary Commission in London. And the occasion provided a rare tribute to his powers. A famous English jurist, sitting as one of the tribunal, heard Mr. Dickinson's arguments and then, descending from the bench, shook him warmly by the hand and said it was the ablest presentation he had ever heard. The Canadian representatives before the tribunal were furious and charged that this indicated a member of the court inclined toward the American side. The United States won, and Mr. Dickinson has always been given credit by those who know the facts. But, however that may have been, Mr. Dickinson then and there won his spurs and upon his return to America discovered with what a feeling of admiration he was held. In 1907-08 Mr. Dickinson was elected to and served as president of the American Bar Association, having just retired from that position when the cabinet portfolio was tendered him by President Taft. His private practice is said to have given him an income of \$75,000 a year prior to his acceptance of the secretaryship of war. Already Mr. Dickinson has made many improvements in the department of which he is the head, and his trip to Panama and his thorough mastery of all the details of his branch of the nation's military service seems to warrant the assertion that Mr. Dickinson will make good, if he has not already done so.



THE BEGINNING OF A MERCHANT

By EVERETT ELMORE.

SOON after the first white man set foot in America the business of buying and selling began, and many a great merchant, of those days, was created through the primitive trade that thus sprang up. Soon ships were docking at the improvised wharfs on the eastern coast and the commerce of America rapidly grew. To-day—in many branches—it leads the world. But behind the commerce of the world there still lies the buying and selling of goods, upon which it is reared. It is not surprising, for this reason, that the buyer and the seller of these goods—the merchant—should occupy an important place in commercial life, and it is still less surprising that the man behind the counter should have an opportunity of wonderful possibilities within his reach. And yet so vast is this business and so varying are its branches that the true scope of the merchant is not easily defined. Possibly the closest definition is that of the “middle man”—the man who stands between the manufacturer and the consumer. And there lies in this definition a certain responsibility and a certain trust that is significant of the importance of the merchant in the world of to-day.

In the selection of two merchants for places in his cabinet President Taft has given to the world a fresh recognition of the character and ability that must inevitably form the basis for the successful merchant of the present day. When the question of a suitable man to guide the finances of the nation came up for his decision it was but natural that President Taft should have scoured the country carefully before the appointment was made. First he looked to the banks, where the “best man” had usually been found before, but the available bankers were not acceptable to him. And so he soon reached

out into other lines. But before he had gone far in his quest there came to his attention an acknowledged leader in the western business world. He found in Chicago the man of men best fitted—in his mind—for the responsibility of directing the national treasury. The man was Franklin MacVeagh, whose rise in the mercantile world had been little short of phenomenal. Mr. MacVeagh had all his life been a seller of groceries, but his name had stood for such reliability and soundness of business methods that he had become widely and favorably known. And so President Taft placed Mr. MacVeagh in the most responsible chair in his cabinet. Likewise, in his selection, he recognized the far-reaching opportunity that is open to the honest merchant of the day. Mr. MacVeagh's life is one of remarkable achievement, but his first step on the ladder to success is of even greater interest. Mr. MacVeagh originally studied to be a lawyer, but his health went back on him and forced him to the West. He came to Chicago and opened a humble grocery store. It was a new business to him, but Mr. MacVeagh had the right stuff in him and made good. Without capital and in a city unknown to him he built up through his remarkable energy and capability one of the largest wholesale grocery businesses in the land. He believed that even in the selling of food-stuffs there was a great chance for the right man and he determined to be that man. He set down certain principles and followed certain beliefs. He saw in Chicago an opportunity and he set out to take advantage of it. To-day—as secretary of the Treasury—he has proven to the world the soundness of the conviction which has brought to him the success for which he sought.

With Mr. MacVeagh in the President's

cabinet is George von Lengerke Meyer of Boston, a merchant like himself. Mr. Meyer began his remarkable career as a commission merchant in Boston and—like Mr. MacVeagh—earned his spurs as a direct result of his business career. Starting humbly in his father's business Mr. Meyer rose with rapid strides and ultimately became recognized far and near for his unusual business capacity—a recognition that has earned for him a place second only to that of Mr. MacVeagh.

Standing alongside these men in national prominence is Oscar S. Straus, former secretary of Commerce and Labor and newly appointed ambassador to Turkey. Mr. Straus, like his contemporaries, began life in the mercantile world—being one of a family of merchants that have earned fame and fortune in eastern business circles. Mr. Straus, with his brothers Isidor and Nathan, began his brilliant career in a humble capacity in his father's firm of L. Straus & Sons, importers of pottery and glassware, and soon became a partner in that large New York firm. Isidor Straus, the eldest of the brothers, began his business life as an agent for the Georgia Export and Import Company of Columbus, Ga., while the third of the trio, Nathan Straus, is now the head of the great Abraham and Straus department store of Brooklyn, N. Y.

H. B. Claflin, the founder of the great chain of stores that still bear his name, started humbly in a dry-goods store in New York, while his son, John Claflin, now head of the H. B. Claflin Co., began as a clerk in his father's store. R. H. Macy, founder of the New York department store that bears his name, began life at the bottom rung—being a clerk in a small eastern establishment.

John Newton Beach, vice-president of the Tefft-Weller Co. of New York City, first embarked in the dry-goods business in a country store in Watkins, N. Y., where he showed unusual business capacity, which was soon recognized by his call to New York. Emmanuel Watson Bloomingdale, the New York merchant, was one of the originators of the department store idea, although his first activity was found in the practice of law. Franklin Green Colby, who is now the head of a large company developing the products of the

Philippine Islands, began his extensive mercantile business as a modest importer in New York City, in which he gained a world-wide reputation for his business sagacity. Frederick William DeVoe, president of the paint and varnish firm which bears his name, started his business career as a clerk in a small New York store, during which time he made a thorough study of the possibilities in the paint business and became fully convinced of the opportunities it offered.

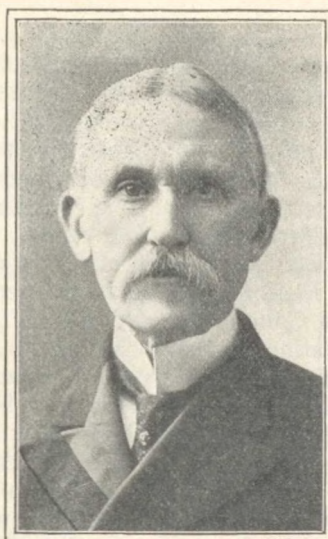
Henry Siegel, founder of the Siegel-Cooper & Co. stores of Chicago and New York, is a native of Germany, from which country he removed to America in 1867. His business career was begun humbly in Chicago in 1876, at which time he embarked in the manufacture of cloaks. Mr. Siegel now has six large department stores under his personal direction.

But remarkable as the career of Mr. Siegel has been, it is no more astonishing than that of his chief eastern competitor, John Wanamaker. Mr. Wanamaker, after an education in the Philadelphia public schools, began his career as an errand boy in a book store of that city at the age of 14. From this modest beginning Mr. Wanamaker graduated to the position of dry-goods salesman, in which position he was employed from 1856 to 1861, at the end of which time he established with Nathan Brown the clothing house of Wanamaker & Brown. In 1876 the present department store that bears his name was established in Philadelphia, while in 1896 he bought the business of A. T. Stewart in New York, establishing a similar firm in that city. Mr. Wanamaker was post-master-general of the United States from 1889-93. Cortlandt de Peyster Field, the New York merchant, while early endowed with a large mercantile business, began on the lowest rung and worked conscientiously throughout his early training—devoting himself studiously to all the details of his business.

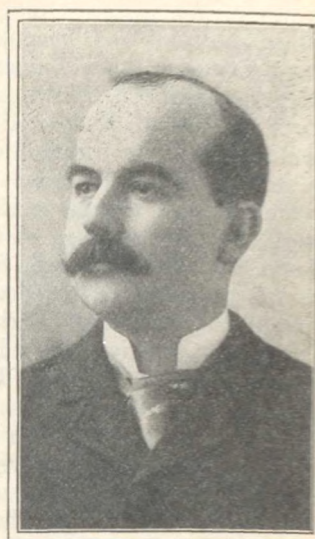
Charles Vincent Fornes, senior member of the New York firm of C. V. Fornes & Co., began his career as a teacher, later becoming principal of a public school in Buffalo. Henry Carlton Hulbert, founder of H. C. Hulbert & Co., of New York, began his varied career as a dry-goods clerk in Pittsfield, Mass., at the age of 16.



ALEXANDER H. REVELL,
President of the Firm That
Bears His Name.



FRANKLIN MACVEAGH,
Secretary of the Treasury.
The acknowledged leader
in the western business
world. All his life a seller
of groceries.



EDW. BURGESS BUTLER,
Founder and Member of the
Firm of Butler Brothers.

William Frederick King, of the New York dry-goods firm of Calhoun, Roberts & Co., received a public school education in that city, after which he began as a clerk in a small dry-goods store of the eastern metropolis.

Franklin Butler Kirkbride of the firm of Booth & Co., New York merchants, began his career in an inconspicuous mining position, after which he became superintendent of the United States mail equipment shops at Washington, D. C. Marcus M. Marks, of the firm of David Marks & Sons and president of the National Association of Clothiers, began his mercantile career in Passaic, N. J., in 1877, after which he embarked in the wholesale clothing business with his father. Adolph Pluemer, the iron merchant of New York, was born in Germany, from which he emigrated to America in 1864, embarking as a machinist in New York City. Gustav Henry Schwab, member of the firm of Oelrichs & Co., shipping merchants, was educated in the New York schools and began humbly in the great business of which he is now the head.

Charles Stewart Smith, who is famous as the one instrumental in the overthrow of Tammany in New York, as well as the

founder of the dry-goods commission house of Smith, Hogg and Garden, commenced his remarkable career at the early age of 15 when—after a country school education—he went to New York and entered the service of a wholesale dry-goods firm as errand boy. Cyrus L. Sulzberger, president of Erlanger, Blumgart & Co., of New York, received his education in the Philadelphia public schools, after which he entered, as bookkeeper, the service of the firm of which he is now the head.

Alfred Treadway White, who, as member of the New York firm of W. A. & A. M. White, has become prominently identified with the philanthropic and civic interests of that city, began his life as a civil engineer, but soon branched out into the mercantile business, accepting an insignificant position in a New York store. Louis Windmuller, the New York merchant, is a native of Germany, where he received his education, after which he came to America, where he embarked at once in the business of which he is now the head.

Harry Gordon Selfridge, head of the firm of Selfridge & Co., of London, began his wonderful mercantile career in a country store in Battle Creek, Mich., after

which he went to Chicago, where he embarked in the firm of Marshall Field & Co. John Graves Shedd, president of the firm of Marshall Field & Co., received his education in the common schools of Alstead and Langdon, N. H., following which he entered the service of the firm of Field, Leiter & Co., of Chicago. Harlow Niles Higinbotham, former partner in the same firm of Marshall Field & Co., and president of the World's Columbian Exposition, received his education in the Commercial College of Chicago, after which he became a clerk and later cashier in a bank at Joliet, Ill. In 1861 Mr. Higinbotham entered the dry-goods business as bookkeeper in the firm of Cooley, Farwell & Co., of Chicago, then served with credit in the Civil War, after which he entered the employ of Field, Leiter & Co., in Chicago.

Edward Burgess Butler, founder and member of the firm of Butler & Brothers, began his business career as clerk in a wholesale dry-goods house in Boston in which he was employed until, with his brother George H., he founded the firm of Butler & Brothers in 1877. A. Montgomery Ward, president of the great mail order house that bears his name, and one of the pioneers in the mail order business, began his business life humbly on the north side of Chicago, where he early established a small dry-goods store on Market street. George R. Thorne, of the firm of Montgomery Ward & Co., also began his business career in Chicago, where, before the fire of 1871, he was partner in the modest grocery firm of Cobb & Thorne.

Alexander H. Revell, now president of the firm that bears his name, was born in Chicago in 1858 and—after receiving a public school education—embarked modestly in the furniture business in that city. Benjamin Carpenter, of the firm of George B. Carpenter & Co., of Chicago, is also a native of that city, where he began in an inferior position in his father's store. Joy Morton, senior member of the firm of Joy Morton & Co., was born in Detroit but early removed to Nebraska City, Neb., where he received his education and first business training.

Israel Parsons Rumsey, a leading commission merchant of Chicago, was born in

Stafford, N. Y., and was educated in the common schools, after which he entered the commission business in Chicago. Andrew MacLeish, of the firm of Carson, Pirie, Scott & Co., of Chicago, is a native of Scotland and began his business life in a humble capacity with J. B. Shay & Co. John Villiers Farwell, who was a leading member of Chicago's coterie of pioneer merchants, was born in Painted Post, N. Y., in 1825 and removed to Chicago when a young man. There he entered the service of a wholesale dry-goods house of which he became the head within three years, changing the firm's name to John V. Farwell & Co. Albert Dickinson, known the country over as the "seed man," is a native of Massachusetts, but removed to Chicago early in life, where—after several years in his father's office—he established the seed house of Albert Dickinson & Co., of which he is now the head.

Samuel Billings Capen, of the firm of Torrey, Bright & Capen of Boston, began his life as a clerk in a carpet store in Boston at the age of 18. John Diedrick Spreckels of the firm of J. D. Spreckels & Bros., shipping and commission merchants of San Francisco, began his business life as a clerk in his father's store. Frank Jameson Symmes, of the firm of Thomas Day & Co., of San Francisco, is a graduate of the naval academy at Annapolis and began his career in the navy, after which he became a salesman in a San Francisco store. Abram Pease Williams, the San Francisco merchant and founder of the Board of Trade of that city, began his successful business life as a clerk in a general store at Fairfield, Me. Henry Fairfax Wheelan, president of the Jessup-Wheelan Co. of San Francisco, began his pursuit of business in the flour industry of that city, from which he spread out his interests to include the mining and lumber businesses. Samuel Walter Woodward, the dry-goods merchant of Washington, D. C., began his upward climb as a dry-goods clerk, working his way through all of the branches of that business until—in 1880—he organized, with Alvin Lothrop, the great department store of which he is now the head. Hazen J. Burton of Minneapolis, president of the Plymouth Clothing

House of that city, began his life in the most modest way and worked up—largely through his own initiative—the great store of which he is now the head.

The climb up the mercantile ladder of Joshua L. Baily of Philadelphia has been one of the most remarkable of all. Mr. Bailey entered a small dry-goods store of the Quaker City at the age of 16, passed through its various insignificant positions and emerged as a member of the firm of which he is now the head. James F. Sullivan, the steel merchant of Philadelphia, also found his start at an early age when—after removing to America from Ireland—he enlisted as clerk in a white goods and notion house of Philadelphia. John R. Pepper, the wholesale sugar and molasses merchant of Memphis, Tenn., is a graduate of the southern free schools and learned his trade while a salesman in a country store. John C. Cutler, governor of Utah and a leading dry-goods merchant of Salt Lake City, began his business life as an agent for the Provo Woolen Mills, while Pearl Wight, the New Orleans merchant, began his career in an even more humble capacity.

Richard Curzon Hoffman, the iron merchant of Baltimore, entered his manhood as a private in the Confederate army, embarking in the iron business immediately after the Civil War. Joshua Levering, the coffee merchant of Baltimore, started in at the bottom in his father's business and proved himself worthy of the promotions he has received. Charles Bowdoin Fillebrown, the Boston woolen merchant, served conspicuously in the Civil War, after which he was salesman for a woolen mills concern, in which he gained his start. Starting as a teacher in the Boston schools, James Phinney Munroe, the eastern paper merchant, won his first spurs and proved himself so efficient that his business life began soon after. His townsman—Stephen Minot Weld, the cotton merchant—also began humbly after a creditable record in the Civil War, through which he passed with high military honors. James S. Bell, the flour merchant of St. Louis, is another of the great business heads who began his life as a clerk—Mr. Miller's first experience being gained behind the counter in a Philadelphia store. Robert Somers Brook-

ings, another of the great St. Louis merchants, began his life as an educator, through which his business capacity soon shone out so bright as to take him into the mercantile field. Samuel M. Kennard, the carpet merchant of Missouri, is another of the merchant leaders of to-day who first saw manhood while engaged in the Civil War, after which he began at the bottom rung in his father's St. Louis store, of which he is now the head.

The list might be continued indefinitely, for throughout America, in almost every hamlet and city of to-day, there stands a handful of merchants who have made good from the humblest of beginnings. Some are still behind the counter in the country store, others are more com-



JOHN GRAVES SHEDD,
President of Marshall Field & Co.

fortably seated behind their great mahogany desks, but nearly all—with few exceptions—have known what it meant to start out and fight. It mattered little how the start was made so long as the right stuff was in the man himself. Marshall Field and Potter Palmer both sold muslin by the yard in their day, but they sold it so well that the mighty stone building was the natural result. And so it is not surprising that even the broad business of merchandising should have graduated from its humblest ranks the great army of self-made men of to-day.

THE SCHOOL OF GENIUS

Conducted by CHRISTIAN D. LARSON

Passive Elements in the Building of Brain, Mind and Talent

Moments of Tranquility. In all growth the passive is just as necessary as the active. Moments of action must invariably be followed by moments of repose, and the mode of repose should be selected with the same scientific care as the mode of action. To know how to properly apply a faculty is highly important when certain results are held in view, but it is equally important to know how to rest, relax and amuse that faculty in order to secure those same results. The reposeful attitudes accumulate; the active attitudes take up the new mental material thus secured, and proceed to build more largely. But the amount accumulated during any moment of repose is always larger when the mind expects accumulation during that moment.

When To Be Still. Immediately following any form of positive action, physical or mental, the mind should be perfectly still for a few moments. Whether the action be actual work or simply exercise, the same rule should be observed. And also certain periods of tranquility should be taken at frequent intervals, varying from a few moments to a few days, depending upon the circumstances involved. The general purpose of such periods would be rest, recuperation and accumulation; and these are just as necessary to progress, growth or advancement as the periods of exercise, work and

action. It is the moments of repose that give the moments of action the necessary material with which to work. This is a law that must receive constant and judicious attention wherever scientific attempts are made in the development of ability, talent and genius.

Relaxation. Any action of the mind tends to produce what may be termed the "keyed up" attitude, and this attitude is necessary to the highest state of efficiency. When you are "keyed up," all your faculties are at their best; they are fully aroused, thoroughly alive and are worked up to the most perfect point of practical ability. But when you are through with your work, the "keyed up" attitude should be discontinued for the time being. The majority, however, fail to do this; they sometimes continue in the "keyed up" attitude for hours after they have ceased to work; they even go to sleep in the same attitude, and then wonder why they do not sleep well, why they tire so easily or why their systems are almost constantly on the verge of breakdown. The attitude for work is for work only; when the work is done enter the attitude that is not for work; that is, relax, and give the system the needed opportunity to place itself in proper condition for the next day's work. To relax the system, breathe deeply, easily and quietly, and think of your
(Continued on second page following.)